DOCUMENT RESUME

ED 163 694 EC 112 623

AUTHOR	Fearn, Leif
TITLE	Longitudinal Efficacy Study.
INSTITUTION	San Diego Unified School District, Calif. Administrative Research Dept.
SPONS AGENCY	California State Dept. of Education, Sacramento.
PUB DATE	Jun 78
GRANT	77-40-G
NOTE	124p.
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Academically Gifted; *Data Analysis; *Definitions; Elementary Secondary Education; *Gifted; Interviews; Parents; Research Methodology; Student Characteristics; Students; Talented Students; Teachers; *Thesauri

ABSTRACT

In order to collect a thesaurus of gifted descriptors and to develop variables and item clusters appropriate for use in impact research, 847 people (404 elementary and 242 secondary school students identified as gifted, 91 elementary and 62 secondary teachers of the gifted, and 73 parents of gifted children) were interviewed. The three major findings when the descriptors were analyzed by group were (1) gifted learners tend to define giftedness academically, (2) gifted learners tend not to agree with adults relative to descriptors of giftedness, and (3) individuals associated with gifted education appear to find it difficult to perceive the field within efficacy measurement terms. (Author/PHR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED163694

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

LONGITUDINAL EFFICACY STUDY

Leif Fearn, Project Director

Prepared Under Grant No. 77-40-G Between
the California State Department of Education
and the San Diego Unified School District

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

T. SMITH

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Gifted Programs Division
(Specific Division of Institution)

San Diego Unified School District
(Institution)

July 30, 1978
(Date of Submission)

The study reported here was part of a program of research in Special Education in the Gifted Programs Division, San Diego Unified School District. The study was carried out during the academic year 1977-1978 under the auspices of the Special Education Research Program, supported by Grant No. 77-40-G between the State Department of Education and San Diego Unified School District.

The full report is reproduced here in this form for distribution as a technical report under the grant, and in order to make complete findings available for others engaged in this research area. Results of this study are the sole responsibility of the investigator. Official endorsement of the California State Department of Education or San Diego Unified School District is not implied.

The investigator wishes to express appreciation to the program administrators who cooperated in this effort. The solicited and willingly given cooperation of those fine people and their teachers under conditions of what has become in this profession unspeakable time pressure is the sole reason why this study could be conducted.

The investigator wishes to specifically acknowledge the professional courage of Dr. David Hermanson, Director, Gifted Programs Division, San Diego Unified School District, not only for supporting external program review, but for the faith he has placed in the investigator for beginning the effort.

Leif Fearn, Project Director

7-30-78

Date of Submission

ABSTRACT

The Longitudinal Efficacy Study (Project Number 77-40-G) was conducted under the formal auspices of the Gifted Programs Division, San Diego Unified School District by Leif Fearn, San Diego State University.

Problem: The problem of the investigation was to bring up-to-date a perspective on lists of descriptors or characteristics, and to begin the process of explicit articulation of impact assessment variables and prospective accompanying assessment items.

Procedures: The project conducted a direct group interview that used the fluent thinking stem with elementary and secondary teachers and learners and parents (N=874) in seven major direct Gifted Education service areas in California to collect perceptions regarding the question of descriptors or characteristics of gifted learners and the question of assessment variables and items appropriate for impact research in Gifted Education. Descriptor input was analyzed for correlations among constellations of subjects. Assessment variable input was arranged as collections of variables, assessment models, prospective items, and commercial instruments and services of instruments.

Findings and Conclusions:

1. Gifted learners tend to define giftedness academically.
2. Gifted learners tended not to agree with adults relative to descriptors of giftedness.
3. Individuals associated with Gifted Education appear to find it difficult to perceive the field within efficacy measurement terms.

TABLE OF CONTENTS

	Page
FOREWORD	i
ABSTRACT	ii
LIST OF TABLES	iv
HISTORICAL OVERVIEW AND LITERATURE REVIEW	1
METHODS	23
A RATIONALE FOR DIVIDED RESULTS	34
A THESAURUS OF GIFTED DESCRIPTORS: DEVELOPMENT AND EVALUATION	35
QUESTION TWO	56
QUESTION TWO: FINDINGS	58
BIBLIOGRAPHY	107
APPENDIX A: THESAURUS OF GIFTED DESCRIPTORS	114
APPENDIX B: UNCLASSIFIED DESCRIPTORS	118

LIST OF TABLES

		Page
Table 1.	Descriptor Frequencies Among the Sample Groups	37
Table 2.	Thesaurus of Gifted Descriptors: Group Frequencies and Percents	39
Table 3.	Eight Common Descriptors: Group Ranks and Intercorrelations	43
Table 4.	Group Intercorrelations for an Expanded Thesaurus (41 words)	44
Table 5.	Correlations Based Upon the Most Popular Descriptors (Frequency)	48
Table 6.	Correlations Based Upon the Most Popular Descriptors (Percents)	49
Table 7.	The Most Important Descriptors as Perceived by All Groups	50
Table 8.	Popular Descriptors Common Among the Groups	51
Table 9.	Correlations Based Upon the Entire Thesaurus	51
Table 10.	Descriptor Discrepancies Among the Groups	52
Table 11.	An Analysis of SES, Sex and Grade Level Factors	54

HISTORICAL OVERVIEW AND LITERATURE REVIEW

The following material reports upon the problem of the investigation, its objectives, and the literature associated with elements of the investigation.

The problem of the investigation is best articulated as questions.

1. What are the contemporary self reports of those who deliver and consume direct Gifted Education Services relative to the descriptive characteristics of gifted children and youth?

2. What are the self reports of those who deliver and consume direct Gifted Education services relative to assessment variables and item clusters appropriate to impact research?

The problem of the investigation was to bring up-to-date a perspective on lists of descriptors or characteristics, and to begin the process of explicit articulation of impact assessment variables and prospective accompanying items.

Certain terminology in the investigation must be clarified. The fundamental terminology in the study is presented below accompanied by the definitions used throughout.

GIFTED LEARNERS: Gifted Learners in this study were defined as any learner certified by a given district to be part of the district's Gifted Education service program. Such learners include those certified by State of California criteria as well as those certified by the district for its own purposes.

GIFTED EDUCATION SERVICES: Gifted Education Services are defined in the study as any service specifically designed to provide qualitatively different learning experiences for selected learners.

SAMPLE: The selected sample for study in this investigation is defined as that identified by the cooperating district according to the request by the investigator for learners and teachers who comprise a representative selection from the district. Sample in this study should not be interpreted to mean random in any precise sense of the term.

BRAINSTORM: The term brainstorm is used in this study interchangeably with fluent thinking where the objective is large numbers of responses to questions with a criterion of quantity, not quality.

IMPACT: Impact in this investigation is a term used to differentiate valuational efficacy research from descriptive efficacy research. Impact means throughout, "In what ways do Gifted Education services affect learners in the programs?"

DESCRIPTOR: Descriptor is used interchangeably with characteristics where a meaning is attached that focuses upon the kinds of people who attend Gifted Education programs.

CONSUMER: Consumers of Gifted Education services are learners and their parents.

DELIVERER: Deliverers of Gifted Education services are also providers of the same services, and are represented in the schooling process as teachers.

SOCIOECONOMIC STATUS (SES): SES in this study is an imprecise term judged by the district itself and based upon the apparent economic conditions under which learners live. It is not a term associated with ethnicity.

ELEMENTARY: Elementary levels are any educational levels from second through the sixth gra es.

SECONDARY: Secondary levels are any educational levels from seventh through the twelfth grades.

This report reflects an investigation conducted under conditions of certain delimitations. It should be consumed under the following conditions. The study did not attempt to create a rationale for the validity or reliability of self report as an assessment technique. The report does not imply any definition of descriptors in a factoral sense. It does not imply that its findings make an explicit case for any substantive change in the implications of the collected knowledge in the field. The study did not seek generalizability below the second grade or above the twelfth and it did not seek generalizability beyond the context of Gifted Education personnel in the State of California.

Certain assumptions were fundamental to the research effort. It was assumed that the greater the number of subjects engaged in a self report study, the greater the validity of self report responses. It was assumed that learners, teachers, and parents constitute the appropriately knowledgeable subjects in a study of this sort. It was further assumed that there exists today at least a slightly different collection of descriptors for gifted learners because of the difference in the nature of those learners certified as gifted today compared with those so certified several decades ago.

The goal of the project was to use the brainstormed input of those who consume and deliver Gifted Education services to define descriptors of gifted children and youth, and to develop variables and item clusters appropriate for use in impact research.

The study was structured in the interest of four objectives:

1. The project intended to directly survey learners, teachers, administrators, and parents in seven school districts in California to collect brainstormed responses to the task: "Make a list of words, phrases, sentences, whatever, that you think best describe gifted or MGM learners."

2. The project intended to directly survey teachers, learners, parents and administrators in seven school districts in California to collect brainstormed responses to the task: "Make a list of the kinds of things that you think are important to study if someone wanted to find out the impact or effect of the MGM program on pupils who are in such programs."

3. The project intended to use brainstormed responses to Question One to establish a contemporary bank of ranked descriptors and to compare responses brainstormed by each constellation of contributing personnel.

4. The project intended to elaborate on brainstormed responses to Question Two to the end that instrumentation appropriate to impact research could be fashioned.

REVIEW OF LITERATURE

Anything titled as above within the context of Gifted Education and not explicitly limited to selected categorical entries risks the illusion of completeness. At the leading edge of the contemporary explosion in research in Gifted Education a decade ago, Frierson (1968) excerpted from Parnes and Brunelle (1967) as follow: " . . . in sheer bulk the research (in creativity) from January 1965 to June 1966 equals that of the preceding five years, which in turn matches that of the preceding ten years, and that again balances the work of the preceding one-hundred years." Frierson's reference to creativity research falls within a review of literature in Gifted Education because beginning in 1964 the percentage of Gifted Education research devoted to creativity has risen and stabilized at approximately 65%. Gifted Child studies, while hovering at the 65% level almost two decades ago, dropped to a level of 35% by 1966. It is important to notice that in both cases cited above, neither generic category indicates to the reader precisely what it is in the areas of creativity and Gifted Education that was being studied.

Twelve years have passed since the time frame noted above during which time the professional literature in Education, Exceptional Children, Behavioral Sciences, and slick periodicals has brought scores of observations, reflections, admonitions, and reports before the public and the public's professionals. As is the case in fields like methodological considerations in initial reading instruction, and more recently, mental ability assessment, reviews of the literature in Gifted Education must reflect representative citations within selected dimensions of the field.

This review is designed to reflect the foci of the funded investigation and its intended direction. Hence, the following

material concerns selected references in four categories:

I. A Rationale for the Study of Descriptors, Variables, and Program Efficacy

II. Gifted and Talented Children and Youth: Descriptors

III. Program Evaluation and Efficacy Research: Variables

IV. Extant Efficacy Investion and Report: Selected Variations

I. In the literature and from the platform there is expressed considerable confidence regarding the nature and needs of gifted and talented children and youth, the variables to be studied in efficacy research, and the value of programs for the gifted and talented. The message is that said learners are exceptional in every sense of the term and that they not only deserve, but benefit from special programs, just as do learners in other categories of exceptionality.

By contrast, however, legislative analysts and budget directors find little in Gifted Education services to warrant the expenditure of funds for reasons, best paraphrased from a prototype General Education teacher who says, "Why shouldn't I use that [strategy]?", or "My students could use those [materials]." or "It isn't fair that my students can't take that trip; they can benefit from it too."

The fact is that with few empirical exceptions there is little data to support special services for gifted and talented children and youth aside from reports that they feel better in such a program, that their teachers feel better teaching in such programs, or that their parents feel better when their children are in such programs.

To a certain extent that situation functions from a current complacency regarding nature and needs; a lack of

specificity regarding program and assessment variables; and program reports that fail to reflect efficacy.

One might suggest that given the years of study of human behavior and characteristics, there are enough data regarding the nature of gifted and talented children and youth, and that the research should be exclusively on the matter of program efficacy. However, program efficacy studies must function precisely from information on nature and needs as well as assessment variables. Nature and needs remains an important area of study.

Recently, Robinson, the director of the Center for Study of Gifted Children, was quoted as follows: "The more we have become involved with these activities [a study of preschool gifted children], the more we become aware of the glaring gaps in our knowledge about children who are intellectually gifted." Frierson (1968) admonished, "The world is changing so rapidly that new descriptive studies must continuously serve as a stimulus for intervention studies." While it may appear that the collected knowledge of the past several decades has generated sufficient information about descriptors that the focus can now be placed elsewhere, those involved with careful study today suggest otherwise.

A rationale for continuing study of the individual within the context of Gifted Education would not be complete without reference to the question of males and females as gifted and talented children and youth. With a dramatically changing cultural milieu relative to the place of males and females in social and public institutions, the collected data from sixty years ago is at least open to question. An indication of the difficulty of separating the gifted and talented population into males and females for any purpose can be gleaned from three studies conducted approximately a decade apart, each

dealing with males and females. Burns (1949) reported that in a population of maladjusted boys and girls, boys were more highly represented in the highest IQ group; that boys were more highly represented in the neurotic group; that girls were more highly represented as behavior problems; and that boys tended to be school-phobic. Haggard (1957) found no academic achievement difference between boys and girls in a gifted population, but did find that the boys showed greater proficiency in abstract reasoning. Finally, Backtold (1969) reported that boys and girls didn't separate relative to effective treatment for underachievement. To the casual reader of each report the findings may not generate any surprise, but they do run contrary in selected instances to the gestalt that emerges from the collected knowledge in traditional nature and need studies which at least imply predictable differences between boys and girls.

Following by a few years on the heels of the nation's discovery of disadvantaged children was the natural generalization that in that group there may be some who are gifted and talented. Since the historic nature and need research was done with learners in school, which to a great extent excluded the disadvantaged, the introduction of disadvantaged children and youth in the gifted and talented population must change the complexion of Gifted Education. Sato (1976) reported that a small percentage of the disadvantaged receive educational accommodations appropriate to their abilities and that one major step that needs to be taken to ameliorate the problem is the development of a clearer definition of "culturally different gifted children."

Finally, the matter of efficacy research in a general sense needs attention. The literature, both published and unpublished, is well represented by comment about the effectiveness of gifted programs. Typically the citations focus upon the achievement of learners, learner self report, and teacher self

report. On rare occasions the matter of impact upon the learner is addressed. On even more rare occasions the investigation model recommended by Newland (1963), that is, longitudinal research, is represented.

To summarize this introductory section of the review, the changing world is at least one reason to continue a focus upon the nature and needs of gifted and talented children and youth; the need for efficacy research, longitudinal or otherwise, is important both for service to the exceptional population and to the essential survival of the direct service field; and no efficacy research can be conducted without specifying impact variables.

II. More specifically now is the first consideration of the study reported herein, that is, the question of the nature of the learner, the question of descriptors. Even after years of study, the literature contains references like that of Ketcham (1975) who suggests that the most pressing problem in Gifted Education is to find a workable definition and identification procedure for gifted children.

The identification procedure aside, unlike the general agreement ascribed to the AAMD definition for retardation, definitions of gifted and talented children range from district to district, expert to expert. Representative of the range in definition is the traditional one that has enormously confused the issue by using a generic introduction that defines "consistently remarkable performance in any worth-while line of endeavor" as gifted, and then includes intellectual, aesthetic, graphic, language, mechanical, and social categories, either as isolated or interacting definitions. A second category of definitions targets a certain central nervous system superiority that facilitates intellectual abstraction and/or creative

imagination. A third focus is on the future with a definition that ascribes intellectual powers at such a high ideational level that it can be reasonably assumed that the person could develop into a problem solver, innovator, and cultural evaluator. All of the above frameworks are represented in the guidelines of districts, state departments of education, and teacher training programs. It could be suggested by a reasonable person that as long as the range of definition is broad enough to include almost everyone, the Ketcham suggestion is perfectably rational.

What kinds of descriptors are included in the literature? The Gifted Gazette by the San Diego Association for Gifted Children excerpted a lecture by May Seagoe (Freer, 1976) which included fifteen descriptors, each with its concomitant problems. The list ranges from descriptions like "Interest in cause-effect relations; ability to see relationships; interest in applying concepts; and love of truth" to others like "Versatility and virtuosity; diversity of interests and abilities; many hobbies; and proficiency in art forms such as music and drawing." Within the list are the characteristics of critical thinking, creativity, power of concentration, sensitivity, verbal proficiency, retentiveness, and power of abstraction.

Another list for teachers was prepared for Instructional Program for Gifted Students, Modesto, California. It is a list of twenty-six characteristics which the reporter introduced with the disclaimer, "I make no apology for the fact that many of the [following] entries may be contradictory--or even mutually exclusive." Among the twenty-six characteristics are those worded, "inter-relates what seem to be completely divergent systems of ideas" and "has probably read all the books, hard-cover, paper-bound, and comic books, on the subjects in which he is interested." Included on the list are the terms impatient, curiosity, rebellious, and humor. The list reports

gifted students as rarely satisfied with simple and obvious explanations, intolerant of stupidity, plans time and activities efficiently, and hates drill.

The Freer and Modesto lists are representative of the fare available from districts and state departments to teachers and those who plan programs. It is important to note that Seagoe was a collaborator on the historic Terman research (Terman, et. al., 1925) and the list from her more current lecture differs little from that in the 1925 publication of Terman subject analyses and from the Modesto list. There is no intent herein to criticize such lists; there is only the suggestion that the strategies utilized in the investigation reported in this document might have some reason to be used, if only to bring lists up-to-date.

Moving into the published literature, Burt (1974) suggested that gifted children and youth differ from the average in intellectual, volitional, physical, emotional, moral, and social characteristics. Christensen (1975) reported academic ability, creative or productive thinking, leadership, visual and performing arts, and manipulative skills as descriptors of the gifted and talented. Nelson (1945) described gifted children in four ways: tenacity, leadership, self-assurance, and efficiency. Martinson (1974) reported general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, ability in visual or performing arts, and psychomotor ability as descriptors. Each of the four citations above presents relatively long lists of descriptors, many of which overlap, some of which are unique to the investigator, and all of which emerge in some form on lists like those of Freer and Modesto.

More specifically to targeted descriptors, Jenson (1973) studied the language behaviors of gifted children and found some

indication that they may indeed speak a dialect unique to giftedness. Still focusing upon language, Neville (1937), studying "brilliant children" with reference to their difficulties, found them to possess excellent vocabularies which they used efficiently. Neville also found that brilliant children (IQ 140-180) honor speed over accuracy, and that half of the population studied ranged emotionally from "difficult" to "extremely anxious." Neville's reference to emotional characteristics is supported by Khatena (1976) in the comment that highly gifted children and youth may have difficulty synthesizing their personal lives and their creative abilities.

One report attempted to discriminate between "types" of giftedness found in the generically identified population. Payne (1975) used a self report personality trait inventory and the Torrance creativity tests to attempt a discrimination between academically gifted youth and artistically gifted youth. His results showed both groups to be experimenting and assertive; the academic group to be less intelligent, more shrewd and reserved; the artistic group to be sensitive, self-sufficient, and casual.

While certainly not an exhaustive compendium of the literature on characteristics and descriptors of gifted and talented children and youth, the material above serves to orient the reader to the kinds of pieces represented in the literature of descriptors. They range from extended lists of characteristics to relatively parsimonious reports of isolated descriptors. A careful reading of the reports cited herein as well as those excluded will provide the reader with the image that Gifted Education is in need of a response to Ketcham's comment.

III. The second target question in this study focused upon variables appropriate to the efficacy research task. It was a critical part of this study because of the investigator's distrust for, on the one hand, total reliance on standardized tests

of ability and achievement as indicators of efficacy; and on the other hand, the reluctance of agencies to measure as yet nonstandardized variables for lack of valid and reliable instrumentation.

The question in this portion of the review is, What gets measured in program evaluation and attempts at efficacy research? The rationale that serves as the foundation for the answer is probably statements like that found in the framework for gifted programs in California (Principles . . . 1971, p. 115) to the effect that pitfalls in the assessment of programs can best be dealt with "by employing the most efficient evaluation techniques and analyses with the greatest possible caution." While "efficient evaluation techniques" may not include the technical validity and reliability criteria, the message associated with program evaluation is certainly a limitation on assessment variables based upon available instrumentation.

The investigation reported herein seeks to begin the development of instrumentation that is based upon assessment variables recommended by those who deliver and consume direct Gifted Education services. What kinds of variables and associated instrumentation are represented in the professional literature?

Barbe (1963) reported on a comparison of moderately and highly gifted elementary school children with a vocus upon the variables of personal adjustment, family background, and academic achievement. Dranz (1976) represented the Multi-Dimensional Screening Device which rates ability in visual and performing arts, creativity, academic ability, leadership, and psychomotor abilities. Stallings' (1976) Environmentally Based Screen includes the variables of recall, depth of information and detail, and abstract thought. Goon (1976) isolated standardized test scores and personality traits in the assessment of

gifted children within an Asian population. Meeker (1976) isolated academic, social-emotional, and physiological considerations as [illegible]able variables.

As the literature is reviewed, it becomes apparent that a core of social-emotional, academic, and thinking skill abilities are the primary foci for efficacy assessment. Certain variables traditionally measured enjoy little confidence in the field. For example, giftedness is universally associated with intelligence, however, the controversy that surrounds intelligence testing is long and vociferous (Cronback, 1975; Chomsky, 1972a; Chomsky, 1972b; Herrnstein, 1972). Measurement is, of course, based upon definitions. Good (1954) stated, "When we try to measure intelligence we seek an indication of capacity for learning and adaptation." Bodmer and Cavalli-Sforza (1970) referred to intelligence as ". . . focus on qualities that can actually be measured." The latter citation was followed immediately by reference to the Stanford Binet as such a measurement tool.

Further, with regard to intelligence, the applications of Meeker (1969) to Structure of Intellect theory (Guilford, 1956) have filtered down to a practical application exemplified by Tucker (1976) in his reference to divergent production (traditionally associated with creative thinking) as a variable of merit in program design and assessment. Perhaps the solution to the mental ability assessment problem is embedded in the work referred to by Trout (1976) which announced progress with the Brain Wave Analyzer, still in the developmental stage and in need of reliability testing.

The artistically gifted come in for attention on lists of characteristics and assessment variables. Wolf (1976) reported on instrumentation for the identification of talented students in the artistic domain. The direct assessment approach

by Wolf is in contrast to the indirect approach, at least implied when a review of speeches on the identification and nurturance of talent was excerpted (Perspectives . . ., 1976) and the speakers recommended a broad liberal arts education. The measurement implication might be the extent to which the educational experience was based in the liberal arts, and the relative broadness of the liberal arts experience.

Another assessment focus is leadership. Lindsay (1978) reported a preliminary study of the assessment of leadership which concluded with a list of five behaviorally inclined characteristics of leaders.

The question of the impact of secondary education experiences was treated by Meyer (1970) in terms of their effect upon college aspirations. The piece focused upon the effects of competition, evaluations of persons by others, judgments of abilities, and constant comparisons as hidden curricular variables. Also focused upon hidden curricular issues was the investigation by Renzulli (1976) in which the investigator used a Likert Scale response mode on twenty-seven declaratives to assess learner attitudes toward independent study.

Three relatively contemporary pieces are used here to indicate what appear to be priority variables in efficacy measurement in Gifted Education. Hitchfield (1973) lists the following variables as important: teacher views toward the gifted, parent views on education, parent definitions of the intelligent and gifted, child views on school, child interests out of school, and child personality. McWilliams (1975) listed two variables: observation of personal qualities and superior reading abilities. Finally, Fortna and Boston (1976) specifically articulated instrumentation appropriate to the measurement task: WISC for aptitude, Stanford Achievement Test for achievement, California Test of Mental Maturity for aptitude, Tennessee Self

Concept Scale for self concept, Torrance Tests of Creativity for creative thinking, and the Scale for Rating Behavioral Characteristics of Superior Students (Renzulli) for gifted child screening.

It is apparent from the above selections that the question of variables is heavily dependent upon the definitions held relative to the nature of gifted and talented children and youth as well as the notions held regarding the purpose of Gifted Education. Many of the variables honored by those represented in the literature do not at this time enjoy associated instrumentation.

IV. The intended direction for the funded initial survey investigation is a longitudinal efficacy study of the impact of gifted programs on learners in a large urban district. The purpose of the intended investigation is not to report on programs or to necessarily describe the nature of the human subjects. Rather the intent is to attempt to identify the impact(s) of the program on the learner. Several pieces of literature make reference to like attempts at investigation in Gifted Education. They will be mentioned as the framework for efficacy research is posited.

It appears that there are at least two sources of recommendation regarding the foci for efficacy research. One is the basic framework for the conduct of gifted programs, whether provided by state departments of education or school districts. The framework in California (Principles . . ., 1971) reads, in part, as follows: ". . . since rote and drill will be emphasized to a lesser degree, we need not be concerned with the results of such curricular devices." (p. 107), and "It is mandatory, then, that in educating gifted children and youth, the schools seek roles beyond the usual one that is concerned with academic achievement. The schools must also prepare the talented minor for adjustment to stress, for developing feelings

of self-worth, and for sustaining a conviction that life is worthwhile despite the tragedies and the shortcomings of man." (p. 114) Such comments can be read by school districts as recommendations regarding what need not be treated in efficacy research, and an introduction to those variables that should be treated in such research.

A second source of recommendation regarding foci is the comment of the experts. Four citations have been selected for the purpose of exemplifying the source. Hildreth (1966) suggested that foreign language should be used as the enrichment focus because it furnishes intellectual enrichment and an understanding of foreign cultures. Conant (1958) recommended as well for foreign language, but at a level equivalent to at least four years of secondary school. Gowan (1964) joins the foreign language forces (heavily represented during the decade of the sixties). Another area of focus is mentioned by Criscuolo (1972) when he suggests a redirected collection of strategies in the reading program, as gifted children have already learned the skills presented in the basal program and may become bored with those (basal) skill-based programs.

Such recommendations are common in Gifted Education and slick literature. The fact that intellectual exercise benefits of certain areas of study have been discredited over the years appears not to disturb the willingness of many gifted educators to continue isolating certain areas of study as those that should be used as indicators of program quality. A second problem occurs with the expert-testimony-as-source-of-direction syndrome. Which expert should program planners and teachers honor? To what extent should program directors and teachers discredit their own experience as they honor the experts? A case in point relative to trusting one's experience versus expert testimony is the testimony of teachers during the past several years that gifted and talented children and youth often

have serious reading problems, functioning to a large extent precisely because their reading programs have ignored the basic skill development format of basal readers.

The efficacy research question has been treated from many perspectives by investigators across the country. The following items are a representative sample.

Goldberg, Passow, Justman and Hage (1965) reported on an investigation of ability grouping and found that ability grouping, by itself, was not the key variable in Gifted Education programming. The data confirm the results of Borg (1964) in an earlier study. On the matter of early school entrance both Durr (1964) and Lincoln (1929) found that adjustments in procedure of that sort not only enhanced academic achievement, but were also not at all deleterious to social-emotional growth in school.

Acceleration has been a fertile field of research, as it has been a primary strategy for gifted programming through the years. Both Attucker (1924) and Martin (1924) found that when superior children were accelerated, they generally performed very well in school. Haney and Uhl (1924) found that accelerated students did "good" or "excellent" at the university level. Adams and Rose (1932) found that accelerated students showed increased achievement. Both Herr (1937) and Dohan (1948) found results like those stated above. The question has emerged, however, that acceleration damages one's prospects for a successful social life in school. Wilkins (1936), Thelburn (1938) and Stokes (1960) all found under a variety of circumstances over a period of almost twenty-five years that acceleration did not negatively affect social space. The acceleration research exemplifies the methodological focus on gifted programming. Similar citations can be found for the other two traditional administrative formats for gifted programming, segregation (Nelson and

Colson, 1945) and enrichment, although the latter is extremely difficult to operationalize for research purposes.

Much of the evaluative work done in Gifted Education is of the "upward thrust" nature where consumers of direct services provide feedback regarding program effectiveness. Exemplary of such investigations is that of Treadway (1968) in which the investigator reported parent support for gifted programs, especially with regard to educational attainment and learner interest in school. Bennet, et.al. (1971) reported on teacher self report which, not surprisingly, showed confidence in gifted programs. The report of White (1974) was also of the upward thrust genre; in this case students responded in the negative or affirmative with discussion to selected declaratives. Conant (1976) is an example of teacher action research which solicited consumer reactions to gifted programs.

An alternative to the upward thrust program evaluation model is one in which the issue of program impact begins to show more clearly. Thirteen citations ranging through a fourteen year time frame have been selected to exemplify these kinds of studies. Hildreth (1952) studied elementary students who were two to five years advanced relative to their respective chronological age and grade levels. Her conclusion found for the value of gifted programs targeted to the kinds of students in her sample. Martinson (1960), in a controlled investigation, studied variables of academic growth, personality, social relations, parent attitude, and cost effectiveness and found for gifted programs. Gallagher (1965) compared public high school and university laboratory school students on the variable of "attitudes" and found that the public high school students showed better attitudes about high school than their university laboratory school peers.

Drews (1965) targeted motivation to learn, openness to psychological growth, and general social concern in her five year treatment-time study of gifted adolescents and found the target variables demonstrated in her research subjects. Additional studies like those above include that of Robeck (1967), Hauck (1967), Jackson and Bachtold (1969), Bockman (1969), Steele, et.al. (1970), and Golden (1970), each targeting their selected variables, and each finding for the value of gifted programs.

Of a different sort, and closing in on the efficacy issue even more closely, is the early work of Gray and Hollingworth (1931) and the more recent investigation by Tremaine (1976). In each case the research model included gifted and talented learners, half of whom were enrolled in gifted classes, and half of whom were not. Both investigations found for the gifted classes, referred to in the Gray and Hollingworth study as "special opportunity classes." These two studies are specifically articulated because with the two groups of like learners involved, it is possible to isolate the impact of the programs upon learners, rather than to simply evaluate the effectiveness of the programs.

No review of special opportunity classes for gifted students would be complete without reference to the work on mathematically precocious youth conducted under the auspices of Johns Hopkins University (Stanley, 1976).

At some point in a review of literature on the effectiveness of gifted programs it must occur to the reader that little is said of the negative effects of such programs. It is true that the traditionally mentioned problems and myths about gifted children have been substantially uncovered and clarified in the literature. There are, however, some references in the literature to the negative aspects of gifted programs. Exemplary of such comment is that of Copley (1961) which reported a negative

assessment of seminars for the gifted, speaking in particular to the lack of clarity, depth, and care in the much publicized spontaneous discussions that occur there. Swing (1973) found the pressure and social isolation to be negative aspects of gifted programs in his study.

By far, however, the body of data regarding the effectiveness of gifted programs is positive. Students show little or no negative effects from the experience, and test scores, self report, and parent-teacher evaluations all specify clearly and forcefully in favor for gifted programs.

Finally, however, the efficacy question comes down to the impact of programs over time. That means a longitudinal perspective. There are several examples of the longitudinal model in the literature of which the Sumption (1941) study is a prime example. An example of a four year follow-up study is that of Powell and Munsey (1973) in which pre and post data were collected. The Alexakos and Rothney investigation (1967), was a post school follow-up which found that the students exceeded their non-lab mates in all criterion areas. Palmer (1977) reported on a follow-up evaluation of the gifted programs at Santa Ana High School in an effort to assess the type and quality of the most effective instructional programs. The report is especially useful in that it includes eighteen conclusions, each accompanied by recommendations.

Two items are presented as the conclusion to this review in the interest of showing the rationale for the study reported in this document, and that planned for the next several years. The Portland, Oregon Public Schools research and evaluation efforts (1964) are based upon a three pronged thrust that includes the development and refinement of procedures, program evaluation, and identification of the characteristics of target learners. While the focus of the projected study is upon impact

rather than program evaluation, the thrust of the Portland plan is not unlike that which is intended in the project investigation.

Finally, Renzulli (1976) is one of the contemporary investigators who strongly recommends for impact research, and in the piece cited here he notes the importance of instrument development as an on-going and necessary process in the context of useful impact investigation.

METHODS

The attempt to collect input perspectives from those who deliver and consume direct Gifted Education services can be most clearly defined methodologically as a direct group interview that used the fluent thinking stem to generate responses.

The project carried on the correspondence appropriate to working with personnel in each of the selected school districts. As authorization to work in each district was received, cooperating districts were requested to make available subjects who were representative of the gifted population and service personnel in the district. Project personnel visited each cooperating district and surveyed all district-authorized subjects. Responses were collected on separate sheets of paper or card stock to be later committed to rank frequency counts (Descriptors), and variable clusters (Impact variables). Ranked frequency cards were then committed to the statistical treatment appropriate to descriptor comparisons. Variable clusters were arranged and elaborated upon to form primary impact variables with accompanying impact items.

DATA COLLECTION: OBJECTIVE, PROCESS, SCRIPT

The basic data collection strategy in the study was the directed brainstormed response. Selected because it stands alone as a strategy for surveying unknowns, the brainstorm is well represented in the literature of creative thinking and creative problem solving. Torrance (1970) refers to its use in serious product and product component improvement efforts in industry. Parnes (1962) initiates serious efforts at individual and group problem solving with the brainstormed response. Williams (1972) and Guilford (1950), labeling it fluency, isolate brainstorming as, in the case of the former, one of eight, and in the case of the latter, one of four basic creative thinking skills. Fearn

(1977) shows fluency (read brainstorming) as one essential entry skill for the entire creative thinking process.

The analogy above to creative thinking is purposeful and important. This study was conducted from the specific beginning point that the collected knowledge in the field of Gifted Education may well fail a collective "us" in our efforts at impact research. That being the case, and the near absence of careful impact research perhaps documents same, it made sense in planning the one year study, and continues to make sense now that the one year study is completed, to approach the effort openly, that is, not only might the collected knowledge be insufficient for impact research purposes, the collected knowledge may even be inappropriate. To approach the problem openly meant to collect data without seeding responses. Hence, responses were solicited on the basis that quantity was the criterion and all responses were valued--no hidden agenda, no predetermined valuing constraints.

The expressed reservations about collected knowledge led inexorably to the two constellations of data collected. First, impact research and evaluation studies are heavily influenced by the conceptions held in the professional community relative to gifted learners. Valuational statements about gifted programs are invariably made upon the basis of assumptions regarding the characteristics of the targets. Judgments about goodness of fit relative to learner-program-efficacy are made largely as follows: "We know who the learners are and what kinds of people they are: do the programmatic characteristics fit the nature of the individuals?" Collected knowledge is an artifact of a heritage of selected classic studies, largely thirty or more years old. Might the collected knowledge be at least insufficient, and perhaps even inappropriate, because it tends not to reflect the dramatic perceptual shifts of the last three or four decades?

Second, while there is considerably more heat than light cast on the contemporary purpose of the American common school, the fact, until common education is constitutionally redefined, is that the American common school exists to benefit its consumers by delivering direct services through its teachers. Only two agents are fully cognizant of the school's product: those who consume direct services and those who deliver direct services. In an effort to measure the impact of a direct service, in this case Gifted Education, it makes sense to at least entertain the concerns of direct service agents. Might the collected knowledge serve the field insufficiently, or perhaps inappropriately, when its contents largely avoid the concerns of direct service agents?

The study sought to collect, treat, and arrange the input from people who provide and consume Gifted Education services. It sought to represent the widest feasible geographic and human range in its collection. It sought to solicit responses openly and to treat and arrange responses as they appeared. The study accomplished its purpose by utilizing the creative thinking skill referred to as brainstorming, or fluency.

The following script explicitly articulates the on-site data collection process. It must be clear to the reader that fluent thinking sessions are not classically conducted according to a script; rather, such sessions are conducted on the basis of the interrogative stem: "How many . . .?" or the imperative stem, "Make a list of . . . ." Clarifying questions are not answered in-session, and time limits are not imposed. For data collection purposes however, certain impositions were necessary for obvious adherence to consistency. The script articulates the process and reflects the impositions.

SCRIPT

All responses were submitted on site-uniform pieces of paper or card stock. Prior to mid February (date of site visit which resulted in certain adjustments in the study) no specific coding devices were placed on any response card. After mid February each response card was coded "B" (boy) or "G" (girl) and each school pack was coded HiSES, MidSES, LoSES, depending upon the extent to which those designations were feasible and/or appropriate.*

DATA COLLECTION: AREAS OF FOCUS

Data were collected in pursuit of responses to two primary questions:

1. What are the contemporary descriptors of gifted learners? and
2. Given the intent to conduct a ten year longitudinal impact study of gifted programs, what are the variables to which the study should attend, and what are the items associated with the variables?

The major reason for getting into the schools and with the people who deliver and consume direct Gifted Education services was to develop the framework upon which instrumentation for impact research could be based. Hence, the second question above was the primary need in the study. While there, however, it would be wasteful not to use the opportunity to collect the descriptors. Further, the descriptor question (1) served the extra purpose of warm-up in the brainstorming process.

*California's public schools, while not losing their clear geographic SES designations, are losing their clear human SES designations. In many cases it was not feasible to label a classroom by SES on the basis of geography. Ethnic representation no longer serves as an SES key. It is at least inappropriate to attempt an SES designation by learner, and within the financial constraints of this study and the legal constraints regarding human subjects, it is not feasible.

Question One: In Question One the study was looking for the kinds of descriptors that today's Gifted Education representatives use when defining gifted children and youth. Since the last massive study of characteristics is possibly past an age of usefulness, the question and purpose for the question had merit.

In addition to the purpose of collecting descriptors of gifted children and youth, Question One served to focus on the possibility that descriptors might vary from population to population, from deliverer of Gifted Education services to consumer of Gifted Education services to observer of Gifted Education services. Nothing in the literature refers to such discriminations. The classic Terman research (1925) collected gifted children as defined at that time and in the context of those times, and then through observation of that sample of a total population, developed descriptors over the years. The descriptors noted as the original sample grew up have become the benchmarks against which all other descriptors are judged, and, in a very real way, upon which identification processes are based in school districts. It is important to say that there is probably no single piece of research in Education, especially of a longitudinal nature, that compares in rigor, perseverance, and quality with the German research. However, the study of descriptors in this study is important for two reasons, both of which are associated with limitations of the Terman milieu. First, Terman began from scratch. His sample was identified from a General Education population and then, largely without the benefit of Gifted Education services, simply observed, albeit, in very specific ways. What appears necessary today in the area of descriptor research is an observation of gifted children and youth from the perspective of those who qualify for the label and those with whom they interact. Without a clear perspective on the possibility of discrepancy from constellation to constellation, the profession runs the risk of damaging the purposes of direct Gifted Education services.

Second, the Terman research was based upon a sample from within a population that is not characteristic of school-going learners today. The geographic range was narrow; the socio-economic range was narrow; the ethnic range was narrow. Now it is senseless to ridicule the Terman research, for reasons not unlike those that make ridicule of Freud's research senseless; however, it does make sense to use the foundation that Terman's research laid to build a more contemporary perspective.

The learners in today's schools are different from those several decades ago in many ways, not the least of which is their socioeconomic, ethnic, and sex characteristics. Further, the perspectives of learners today are different, if only to the extent that female learners expect that they will remain in school for legitimate educational reasons. At least half of the learners in schools today (females) are there for substantively different reasons than their reasons for being there four decades ago. In addition, Gifted Education populations today contain a much greater range of the total population than even one decade ago. The gifted learners are different today. For that reason, at least, their descriptors need to be reassessed in contemporary perspective.

Question Two: Question Two's intent is very contemporary in perspective. The traditional procedures for assessing direct Gifted Education services involved two thrusts: achievement and learner approach behaviors and attitudes. Achievement has been assessed using the same achievement tests used in General Education, but the expectations are higher. The expectations should, of course, be higher, but a case can be made for suggesting that if a learner gets certified in Gifted Education because (s)he achieves an IQ that is two standard deviations above the norm, that learner should achieve at that level just to stay even, to say nothing of accelerated achievement, since the IQ is a predictor of school success. Further, basic school

achievement does not address the notion of qualitative difference that has become so important in Gifted Education programming. Therefore basic achievement testing as a measure of program effectiveness leaves much to be desired.

The same can be said for learner approach behaviors and attitudes. Renzulli (1976) recently took the courageous stand in print that smiles on the faces of learners is a poor measure of program effectiveness. Basically, approach benavior and attitude has been measured on the bases of whether or not the learner likes being in the program and as Renzulli insists, an approach response that comes from the program's offering of a break from drilled arithmetic tells us little about effectiveness.

A larger problem is involved in Question Two, however. Virtually all of the attempts at efficacy research focus on the matter of evaluating programs. They invariably question whether the program is good, fair, or poor. There is virtually no research or reporting device for research that focuses on the impact of Gifted Education services. The field has devoted human services and funds to valuational reporting while leaving unanswered the question of the nature of the Gifted Education impact. The nature of the impact is the purpose of Question Two.

Once a decision is made to focus on impact, the question of relevant variables emerges. Again the source of information was deemed to be those who consume and deliver direct Gifted Education services. The purpose of Question Two was to identify the variables and items that appear to learners, teachers, and parents to be relevant in the identification of impact.

THE SCRIPT

Data collection instrumentation was a process, not a

product. Hence, there is no specific instrumentation. It may go by the name, Group Process Exercise, where the production focus is primarily upon fluent thinking and production with minor focus upon leader-selected specificity. While the plan specified a sixty minute collection period in each situation, experience cut that time projection to approximately thirty-five minutes. The process conformed to the following format.

1. The purpose of the exercise is clearly and honestly explained, that the leader is collecting information from the subjects for the purpose of solving a real problem associated with describing gifted learners and developing variables and items to test those variables in impact research. The process is leader directed. Subjects make their responses on 5 x 8 cards, all of which are collected at the end of the session.

2. Specifically, the session conforms to the following process. "Today you will be writing ideas on these cards in response to my questions about the kinds of learners who are in MGM programs and the kinds of things we ought to look at when we attempt to study the impact of MGM programs. What I am asking you to do is brainstorm with your ideas. For example, if I asked you to give me a list of all of the red things you can think of, what ideas would you give? (Oral response around the room). That is the kind of thinking I want you to do today. The first question is, Make a list of words, phrases, sentences, whatever, that you think best describes gifted or MGM learners. You can write whatever comes to your mind, but I would like you to write as many ideas as you can think of." (Allow eight minutes for written response, responding to any and all questions that are asked by subjects at any time. Clarifying questions should always be answered by assuring the inquirer that his or her own ideas are what are wanted, that subjects can define the terms in their own way.)

   Following an eight minute period: "Now let us hear some of your ideas. Pick out an idea from your list that you think is especially good, and share it." (Subjects volunteer several ideas, that followed by another two minute period during which subjects write other ideas in response to the questions that may have occurred to them.) At the end of the subsequent two minutes: "Now let me have those cards." Leader picks

up subject's cards and distributes another to each subject. "Time time my question is different. I would like you to think about the kinds of things that you think are important to study if someone wanted to find out the impact or effect of the MGM program on pupils who are in such programs. In other words, if I wanted to find out how the MGM program affects you, what things would I study and what would I ask? Write down as many ideas as you can think of on your card." (Allow eight minutes for written response during which time the leader answers all questions asked, reinforcing the previous direction that subjects define and/or interpret the question in their own way.)

After eight minutes: "Pick out an idea from your list that you think is an especially good one and share it with the group." Each shared idea, with special attention toward ideas associated with decision making, thinking, leadership, instructional quality, and talent development is then followed with this directive: (Shared idea - "Whether the program allows children to think") "I have a test here titled Allowing-To-Think. What questions should I ask or what should I look for?" The entire group responds to the question and the leader writes down all responses.

Following a session of that kind of approximately six to ten minutes (the range of time such a session can productively last), collect all cards.

The session is over.

3. The purpose of the above process was to collect the perceptions, the ideas, of a broad representation of people intimately associated with Gifted Education programs and their services in response to the directed questions. The question of validity regarding the process is best answered by saying that the ideas are in response to the question asked, that is, the question generates the responses for which it calls. The purpose of fluent thinking exercises is to produce long lists of responses that range throughout the subject's experiences and perceptions. The exercise indeed fulfilled that objective.

SUBJECTS

Geographic Areas: The design of the study called for data collection from the widest feasible geographic range in the state.

For that reason the three major metropolitan areas became the geographic foci, and the five districts in those geographic areas were selected because of the scope of their direct Gifted Education services. In addition, for purposes of small-district representation, two districts were chosen, one north and one south. The total representation was seven districts:

San Diego Unified School District,
Long Beach Unified School District,
Los Angeles Unified School District,
San Francisco Unified School District,
Oakland Unified School District,
Walnut Creek Elementary School District and
Mt. Diablo Unified School District, and
Oceanside Unified School District.

Both Walnut Creek and Mt. Diablo served the county district purpose in northern California because Walnut Creek has no formal gifted program at the secondary level. In that place, secondary input was taken from Mt. Diablo in the same geographic area.

Subsequent to the selection of districts, two districts declined to participate.

Constellations of Subjects: The study plan called for data collection from elementary and secondary learners, elementary and secondary teachers, elementary and secondary administrators, and associations of parents of the gifted. Those constellations were selected because they represent the widest feasible range of consumers and providers of direct Gifted Education services.

Several factors became apparent as the arrangements with districts were made. First, and most important, site administrators rarely collect in central places under circumstances which find principals with major gifted responsibilities available for data collection. Hence, site administrators with major responsibilities for direct Gifted Education services are not represented in this report.

One district could produce but three secondary teachers who had major responsibility for direct Gifted Education services. All three of those teachers participated in the collection process. Elementary schools were better able to produce classes labeled "gifted" than secondary schools where learners were in classes more likely labeled "AP," "honors," or "advanced" and therefore contained many learners who were not certified as gifted, but performed up to par with certified learners. Formal parent associations do not exist in some districts, and in others, rarely meet.

Data were collected from all authorized districts and constellations where data collection was possible.

The Matters of Randomness and Human Subjects Authorization: Two factors of selection were left to participating districts. In the case of randomness, the investigator requested of each district coordinator who set up site visits to make arrangements in a way that would insure the widest possible representation of learners and teachers in the district. That is a concession to feasibility. In the original study proposal limited to one district, a plan for randomization was proposed which would have had learners, teachers and administrators traveling to central places for data collection. Given the agreed upon scope of the study, such a plan was discarded as not feasible. Indeed, given the experience of the study year, any plan that called for personnel travel to central places would likely have rendered the study inoperable.

With respect to human subjects, that too was left to cooperating districts. It was not feasible for the investigator to process the administrivia necessary to gain authorization for each of many hundreds of participants, and it would have been nonsensical as well since each district has well developed protections in that regard. When those protections were completed in each district, the investigator was invited in.

A Rationale For Divided Results

This study reports on two focus questions. As input from the subjects was collected, and as the input was analyzed, it became clearly apparent that two different kinds of result reports were appropriate. Each is treated separately for that reason.

A THESAURUS OF GIFTED DESCRIPTORS: DEVELOPMENT AND EVALUATION

Giftedness is an attribute regarded as important by our society. This is evidenced by the fact that considerable money is allocated to specialized programs for the education of individuals identified as gifted. The success of such programs must, in part, rest upon a clear understanding of what is meant by "giftedness".

Webster (1960) defined gifted as, "[one sho is] endowed by nature with gifts or a gift; talented." The beauty of such a definition rests with its general nature and, though one would concede the truth of this definition, the successful design of suitable educational programs dictates a more careful delineation of what is meant by "giftedness". It is a necessary first step in the research which might serve to modify what presently exists as gifted curricula.

Authorities are responsible for the preparation of suitable definitions of terms. In turn, these experts may exist "inside" or "outside" a particular construct needing definition--that is, in the case of giftedness, one might seek to have the term clarified by those who are gifted or by various others who have responsibilities to them.

With the aforementioned considerations in mind, the purposes of this study were several-fold:

1. To develop a thesaurus of descriptors for giftedness which can be used to clarity this construct;
2. To statistically apply the descriptor thesaurus to various groups either possessing the attribute of giftedness or serving it as "outside" agents in order to determine similarities and differences in perceptions; and,
3. To make recommendations regarding future investigations of the giftedness model and possible instrument design.

Method

This study was conducted during the 1977-78 school year. During this time, the principal investigator, dr. Leif Fearn, and his assistant gathered data from five different groups. As a preliminary to the careful analysis

of the data a cursory investigation of the data was performed. This provided the principal investigator with information for an oral report he made in June and also afforded the evaluator opportunities to adopt and test suitable statistical techniques.

Subjects. A total of 874 people supplied the data utilized in this study. These were distributed among five groups as follows: 404 elementary and 242 secondary students identified as gifted; 91 elementary and 62 secondary teachers of the gifted; and, 73 parents of gifted children.

Instruments. The primary instrument for gathering data was a script developed (and discussed earlier in this report) by the principal investigator. This was used in group situations to elicit from the participants a list of words and/or phrases which each felt characterized the gifted student. Once this was accomplished, each participant ranked his/her list of descriptors in order of their importance. Table 1 related information regarding the frequencies of these descripters for the various sample groups. The elementary learners group, for example, supplied a total of 201 different descriptors--49 of these were mentioned by only one subject while 39 others were listed by 20 or more participants. Altogether, the elementary lists yielded 2,622 responses for an average list length of 6.49 words per student. This same information is tallied for the other four groups. As one might expect, the student lists were on the average shorter in length, 6.49 and 6.12, than their corresponding teacher-group counterparts, 10.51 and 15.05. Parents, on the other hand, provided an average list length of 6.14.

Thesaurus of descriptors. The primary task in this investigation was to generate a thesaurus of descriptors for giftedness. Ultimately, it was the data associated with this thesaurus which allowed comparisons to be made among the five sample groups. Once all lists from all participants were obtained, each descriptor word was tallied in such a way as to preserve not only the frequency of times reported, but also the various ranks assigned to it. This, as indicated earlier (Table 1), yielded a list of 201 wards from the elementary learner group, with a frequency and average rank assigned to each word. The other list lengths were: elementary teachers (ET), 179; secondary learners (SL), 153; secondary teachers (ST),

Table 1. Descriptor Frequencies Among the Sample Groups

Summaries	Descriptor Frequency	Sample Group[a]					Totals
		EL	ET	SL	ST	PA	
	1	49	62	26	7	40	184
	2	25	32	13	6	17	93
	3	16	18	21	7	16[b]	78
	4	17	13	6	11	8	55
	5	6	10	12	6	3	37
	6	5	9	8	8	7	37
	7	7	3	9	3	2	24
	8	6	7	7	4	4	28
	9	5	4	5	7	5	26
	10	2	0	2	5	1	10
	11	4	3	3	4	4	18
	12	2	1	3	1	1	8
	13	2	1	3	0	2	8
	14	5	0	4	4	0	13
	15	3	2	1	1	1	8
	16	2	2	3	2	0	9
	17	2	1	4	3	0	10
	18	2	1	0	3	0	6
	19	2	0	3	1	1	7
	20 or more	39	10	20	11	1	81
Number of Descriptors		201	179	153	94	113	740[c]
Total Responses		2622	924	1482	933	448	6409
Number of Participants		404	91	242	62	73	872
Words per Paricipant		6.49	10.51	6.12	15.05	6.14	7.35
Descriptors Analyzed[d]		39	38	35	35	40	

[a]Group identifiers: EL, elementary learners; ET, elementary teachers; SL, secondary learners; ST, secondary teachers; and, PA, parents

[b]Cut-off points for choosing descriptors for the preliminary investigation

[c]Considerable overlap among the lists

[d]Preliminary investigation

94; and parents (PA), 113. These 740 words and accompanying statistics were typed on colored stock (one color for each of the five groups) and then cut into single word pieces so that these could be used in a merging process which allowed the various words to be classified into larger categories. The results of this procedure was a thesaurus consisting of 72 classifications and using a total of 385 different words. Table 2 reports the 72 major classifications and, for each classification, the frequency of times each of the five groups listed a word which was subsumed in that category. (See Appendix A for a complete copy of the thesaurus and Appendix B for the words which could not be classified.) To be considered a suitable category, words related to it must have been listed by at least 20 participants and/or three different groups.

The reader should also note at this point the following additional information reported in Table 2 since these data were important to some of the ensuing analyses reported in this paper. Of the 2,622 words supplied by the EL group (Table 1) 2,458, or 94%, were classified into the thesaurua. For the other groups, ET, SL, ST and PA, the percentages of classified words were 95%, 94%, 99% and 96%, respectively. Corresponding to each descriptor frequency for a particular group, a percentage was determined that indicates what portion of the total that frequency represents. For example, for the "Achievement" category and the EL group, the frequency of 70 represents 2.8% of the 2,458 words classified for this group. Using these data, frequencies and percentages, means were determined for each descriptor so that corresponding ranks could be determined. These data are reported in the right most columns of the table.

Preliminary investigation. As indicated earlier, a cursory treatment of the data was conducted in order to test various statistical procedures. Utilizing the information reported in Table 1, the 35 to 40 most popular descriptors were chosen from each group of participants. These were merged to determine a miniature thesaurus of words which were largely common to the five groups. Initially, there were only 8 categories common to all groups--these are reported in Table 3. To value these descriptors in a statistical sense, an index was calculated for each descriptor within each group by simply dividing the average rank assigned to that descriptor by the number

Table 2. Thesaurus of Gifted Descriptors: Group Frequencies and Percents

	Descriptor	Group Frequencies and Percents										Frequency		Percent	
		EL		ET		SL		ST		PA		Mean	Rank	Mean	Rank
		f	%	f	%	f	%	f	%	f	%				
1.	Achievement	70	2.8	17	1.9	42	3.0	16	1.7	2	.5	29.4	10	2.0	15.5
2.	Active	20	.8	17	1.9	35	2.5	9	1.0	11	2.6	18.4	20	1.8	19.5
3.	Advanced	44	1.8	2	.2	37	2.7	11	1.2	5	1.2	19.8	18	1.4	30
4.	Alone	4	.2	4	.5	24	1.7	3	.3	7	1.6	8.4	46.5	.9	41.5
5.	Artistic	37	1.5	4	.5	5	.4	4	.4	6	1.4	11.2	39	.8	47
6.	Attentive	37	1.5	12	1.4	7	.5	9	1.0	23	5.4	17.6	23.5	2.0	15.5
7.	Aware	5	.2	5	.6	40	2.9	23	2.5	11	2.6	16.8	26	1.8	19.5
8.	Bored	2	.1	5	.6	5	.4	16	1.7	7	1.6	7.0	56	.9	41.5
9.	Careful	16	.7	10	1.1	7	.5	0	.0	6	1.4	7.8	50	.7	51
10.	Careless	5	.2	17	1.9	0	.0	0	.0	2	.5	4.8	65.5	.5	58
11.	Competitive	3	.1	29	3.3	20	1.4	16	1.7	15	3.5	16.6	27	2.0	15.5
12.	Conceited	16	.7	6	.7	3	.2	0	.0	3	.7	5.6	62	.5	58
13.	Confident	20	.8	12	1.4	28	2.0	14	1.5	8	1.9	16.4	28.5	1.5	27
14.	Considerate	33	1.3	11	1.3	20	1.4	8	.9	2	.5	14.8	32	1.1	35
15.	Cooperative	30	1.2	7	.8	14	1.0	6	.6	0	.0	11.4	38	.7	51
16.	Coordinated	18	.7	6	.7	8	.6	0	.0	4	.9	7.2	53.5	.6	53.5
17.	Courageous	5	.2	5	.6	1	.1	4	.4	0	.0				
18.	Creative	103	4.2	56	6.4	65	4.7	47	5.1	22	5.1	58.6	2	5.1	2

Table 2. Thesaurus of Gifted Descriptors: Group Frequencies and Percents (continued)

	Descriptor	Group Frequencies and Percents										Frequency		Percent	
		EL		ET		SL		ST		PA		Mean	Rank	Mean	Rank
		f	%	f	%	f	%	f	%	f	%				
19.	Critical	3	.1	20	2.3	7	.5	17	1.8	8	1.9	11.0	40.5	1.3	32.5
20.	Curious	18	.7	26	3.0	16	1.1	33	3.6	22	5.1	23.0	13.5	2.5	8
21.	Demanding	4	.2	20	2.3	6	.4	25	2.7	13	3.0	13.6	34	1.7	23
22.	Disruptive	16	.7	2	.2	0	.0	0	.0	2	.5	4.0	67.5	.3	69.5
23.	Eager	7	.3	16	1.8	7	.5	36	3.9	9	2.1	15.0	31	1.7	23
24.	Empathic	6	.2	16	1.8	15	1.1	45	4.9	13	3.0	19.0	19	2.2	12.5
25.	Energetic	2	.1	5	.6	4	.3	8	.9	1	.2	4.0	67.5	.4	64.5
26.	Erratic	2	.1	16	1.8	0	.0	11	1.2	0	.0	5.8	60.5	.6	53.5
27.	Fair	12	.5	9	1.0	0	.0	5	.5	1	.2	5.4	63	.4	64.5
28.	Family Support	0	.0	4	.5	9	.6	11	1.2	1	.2	5.0	64	.5	58
29.	Flexible	57	2.3	5	.6	28	2.0	26	2.8	0	.0	23.2	12	1.5	27
30.	Friendly	141	5.7	8	.9	36	2.6	0	.0	4	.9	37.8	7	2.0	15.5
31.	Fun	40	1.6	2	.2	7	.5	0	.0	1	.2	10.0	43	.5	58
32.	Goal Oriented	0	.0	4	.5	36	2.6	15	1.6	0	.0	11.0	40.5	.9	41.5
33.	Good Citizen	54	2.2	0	.0	25	1.8	0	.0	0	.0	15.8	30	.8	47
34.	Happy	25	1.0	1	.1	8	.6	2	.2	2	.5	7.6	51	.5	58
35.	Healthy	48	2.0	10	1.1	2	.1	0	.0	4	.9	12.8	36	.8	47
36.	Helpful	21	.9	1	.1	7	.5	0	.0	3	.7	6.4	59	.4	64.5

Table 2. Thesaurus of Gifted Descriptors: Group Frequencies and Percents (continued)

	Descriptor	Group Frequencies and Percents										Frequency		Percent	
		EL		ET		SL		ST		PA		Mean	Rank	Mean	Rank
		f	%	f	%	f	%	f	%	f	%				
37.	Humor, Sense of	38	1.5	42	4.8	49	3.5	27	2.9	6	1.4	32.4	9	2.8	5.5
38.	Imaginative	30	1.2	8	.9	13	.9	25	2.7	6	1.4	16.4	28.5	1.4	30
39.	Impatient	0	.0	18	2.1	0	.0	8	.9	10	2.3	7.2	53.5	1.1	35
40.	Independent	8	.3	49	5.6	32	2.3	16	1.7	7	1.6	22.4	15.5	2.3	10.5
41.	Intellectual	7	.3	0	.0	17	1.2	0	.0	0	.0	4.8	65.5	.3	69.5
42.	Intelligent	392	15.9	13	1.5	135	9.7	33	3.6	11	2.6	116.8	1	6.7	1
43.	Interested	35	1.4	27	3.1	19	1.4	19	2.1	15	3.5	23.0	13.5	2.3	10.5
44.	Interesting	72	2.9	2	.2	12	.9	4	.4	0	.0	18.0	21.5	.9	41.5
45.	Lazy	4	.2	2	.2	12	.9	1	.1	0	.0	3.8	69	.3	69.5
46.	Leadership	5	.2	24	2.7	4	.3	6	.6	3	.7	8.4	46.5	.7	51
47.	Learns Easily	179	7.3	18	2.1	52	3.7	9	1.0	0	.0	51.6	3	2.8	5.5
48.	Likes School	7	.3	8	.9	11	.8	21	2.3	4	.9	10.2	42	1.0	37.5
49.	Logical	3	.1	5	.6	0	.0	4	.4	4	.9	3.2	70.5	.4	64.5
50.	Mature	15	.6	6	.7	22	1.6	7	.8	13	3.0	12.6	37	1.3	32.5
51.	Mean	36	1.5	0	.0	4	.3	0	.0	0	.0	8.0	48.5	.4	64.5
52.	Memory, Good	9	.4	6	.7	6	.4	8	.9	11	2.6	8.0	48.5	1.0	37.5
53.	Motivated	69	2.8	7	.8	66	4.7	34	3.7	6	1.4	36.4	8	2.7	7
54.	Normal	29	1.2	1	.1	17	1.2	2	.2	0	.0	9.8	44	.5	58

Table 2. Thesaurus of Gifted Descriptors: Group Frequencies and Percents (continued)

	Descriptor	Group Frequencies and Percents										Frequency		Percent	
		EL		ET		SL		ST		PA		Mean	Rank	Mean	Rank
		f	%	f	%	f	%	f	%	f	%				
55.	Opinionated	7	.3	7	.8	14	1.0	1	.1	8	1.9	7.4	52	.8	47
56.	Perseverence	35	1.4	7	.8	21	1.5	15	1.6	8	1.9	17.2	25	1.4	30
57.	Problem Solver	4	.2	23	2.6	1	.1	0	.0	6	1.4	6.8	58	.9	41.5
58.	Questioner	0	.0	25	2.9	2	.1	41	4.4	20	4.7	17.6	23.5	2.4	9
59.	Quick	0	.0	18	2.1	8	.6	27	2.9	13	3.0	13.2	35	1.7	23
60.	Quiet	23	.9	1	.1	11	.8	0	.0	0	.0	7.0	56	.4	64.5
61.	Reader	28	1.1	18	2.1	20	1.4	18	1.9	6	1.4	18.0	21.5	1.6	25
62.	Reassurance	0	.0	19	2.2	3	.2	8	.9	5	1.2	7.0	56	.9	41.5
63.	Responsible	30	1.2	9	1.0	13	.9	13	1.4	5	1.2	14.0	33	1.1	35
64.	Sociable	30	1.2	13	1.5	44	3.2	22	2.4	3	.7	22.4	15.5	1.8	19.5
65.	Standards, High	7	.3	9	1.0	9	.6	2	.2	2	.5	5.8	60.5	.5	58
66.	Studious	134	5.5	6	.7	55	3.9	10	1.1	0	.0	41.0	4	2.2	12.5
67.	Talented	92	3.7	1	.1	30	2.2	18	1.9	5	1.2	29.2	11	1.8	19.5
68.	Thinkers	85	3.5	23	2.6	37	2.7	35	3.8	10	2.3	38.0	6	3.0	4
69.	Tolerant	6	.2	2	.2	3	.2	5	.5	0	.0	3.2	70.5	.2	72
70.	Unique	56	2.3	3	.3	30	2.2	16	1.7	5	1.2	22.0	17	1.5	27
71.	Verbal	50	2.0	55	6.3	29	2.1	41	4.4	18	4.2	38.6	5	3.8	3
72.	Vocabulary	9	.4	9	1.0	20	1.4	9	1.0	1	.2	9.6	45	.8	47

Table 3. Eight Common Descriptors: Group Ranks and Intercorrelations

Descriptor	Group Ranks				
	EL	ET	SL	ST	PA
Achievement	3	7	3	5	5
Creative	2	2	2	1	2
Humor	6	6	4	6	8
Intelligent	1	4	1	2	1
Interested	7.5	5	8	8	4
Reader	7.5	8	7	7	7
Thinker	4	3	5	3	6
Verbal	5	1	6	4	3
Group Intercorrelations[a]					
EL	--	.42	.92*	.90*	.66
ET		--	.69	.67	.62
SL			--	.79*	.45
ST				--	.62

[a].05 level of significance requires r > .706, 6df

of times it was listed by the participants of that group. This procedure allowed both rank and frequency to determine the relative worth of each word. This index, if small in value, was so either because the numerator was a small number (high average rank), or the denominator was a large number (listed frequently by participants)--in either case, one would deem the associated descriptor important. A larger index value would necessarily be associated with a less important descriptor. These indices were assigned ranks within groups (as indicated by the columns in the top portion of Table 3) and these, in turn, were used to determine Spearman Rho correlations among the groups (also reported in Table 3).

Though the correlations in Table 3 all appear moderate in value only three of the ten values were significantly different from zero. These several correlations were among the EL, SL and ST groups. One could use

this information to argue that the relative perceptions of these descriptor words for any one of these groups were validated by the remaining two. On the other hand, the rankings assigned by the ET and PA groups were not significantly validated by any other group.

Next, this initial nucleus of a thesaurus was expanded to 41 categories by cross referencing the earlier developed descriptor lists for the five groups. For example, using the criteria established for including words in this preliminary investigation (the 35 to 40 most common descriptors for each group) the word "confident" was supplied by all groups except the elementary learners. In checking the descriptor list for this group the word "confident", though not among the most common descriptors for this group, was located and added to the list along with its average rank and frequency of occurance. With the exception of 7 categories, the descriptors of this expanded thesaurus were common to at least four of the five groups. Correlations were again computed among the five groups and are reported in Table 4.

Table 4. Group Intercorrelations for an Expanded Thesaurus (41 Words)

Group	Group				
	EL	ET	SL	ST	PA
Elementary Learners	--	.06 (27)[a]	.73* (29)	.54* (27)	.30 (26)
Elementary Teachers		--	.06 (34)	.49* (36)	.32 (32)
Secondary Learners			--	.32* (35)	.23 (32)
Secondary Teachers				--	.39*

[a]Number of descriptors common to both groups and used in calculations

When compared to the correlations in Table 3 one notes that each corresponding correlation in Table 4 is smaller in value though, because of an increase in sample size, five of the ten coefficients were significantly different from zero. Four of these involved the ST group which suggested that their perceptions of giftedness shared something in common with each

of the other groups. The greatest correlation existed between the two learner groups while the two smallest correlations were between these same groups and the elementary teachers. These data suggested that the five groups, though using common descriptors, prized them in different ways.

These correlation analyses appeared robust enough to detect differences which might exist among the five groups. It was noted that the average ranks among the various descriptors for a particular group showed little variability--probably due to a regression phenomenon and the fact that short lists would yield ranks in a restricted neighborhood. Therefore, the previous tedious technique for calculating correlations was abandoned and subsequent analyses utilized response frequencies of the descriptors to calculate Pearson correlation coefficients in its stead. Statistically, this was probably a more appropriate technique though the correlations derived this way were little different from the previously determined Spearman correlations.

RESULTS

Besides investigating differnces that existed among the five sample groups included in this study a lesser analysis was performed using participants from the two learner groups. These individuals were classified by socio-economic status and sex so that appropriate comparisons could be made. For this reason, this section was divided into two major parts: Intergroup Comparisons; and, SES, Sex and School Level Factors.

Intergroup Comparisons

The data associated with the earlier developed and siscussed thesaurus of gifted descriptors (Table 2 and Appendix A) served as the basis for all intergroup comparisons. The reader will recall that these data were gathered as free responses given by the participants to a script read by the principal investigator which essentially asked what words and/or phrases describe giftedness. This gererated a list of words and/or phrases for each participant. Though each participant ranked the words on his/her list in order of importance these statistics were of little value since, for example, two ranks of three have very different meanings it they came from two lists consisting of three and ten words, respectively. Therefore, all

one could do with these data was to tabulate descriptors within groups and determine frequencies of occurance. At best, for a statistician, these data seriously limited the techniques which might be used to look at intergroup differences. Bear in mind, the primary purpose of this study was to develop a thesaurus of descriptors--the data gathering techniques were wholly appropriate to this task. But, having constructed the thesaurus, the associated statistics were for groups and no longer associated with individuals.

It is very difficult to generate a single set of data which can be used to serve two very different purposes as was the case in this study. The data served nicely as a basis for constructing a thesaurus but is used here a second time to indicate what relationships existed among the sample groups. Ideally, this investigation would be carried a step or two further utilizing the thesaurus as a basis for constructing new instruments which would yield data more appropriate to making intergroup comparisons. The reader should view what follows as attempts to establish a theoretical basis for future research and not as a definitive treatment of group differences.

Factor analysis. In an effort to utilize the data of this study on a participant rather than group level factor analysis techniques were attempted. To do this, the 40 descriptors common to all five sample groups were identified (see Table 2). The original lists of descriptors for the ST and PA groups were encoded on computer cards. Each list was divided into thirds according to length and ranks. Those descriptors ranked in the top third of a list were given the value "3", those in the middle third a "2", those at the bottom a "1", and zeros were used as fill for all those descriptors not used by a particular subject. Recall (Table 1) that these lists were on the average quite short--about 15 and 6 words for the ST and PA groups, respectively. As was anticipated the large number of zeros caused three-factor solutions in both cases which failed to account for any more than 25 percent of the variance.

Parsimonious solutions. Several niggardly attempts to establish some basic relationships among the five groups are reported in this section. It was reasoned that the data associated with the most popular descriptors in the thesaurus would yield the most reliable results since in this case the

data was most dense. Table 5 reports the results obtained when the data associated with the ten most popular descriptors as defined by frequency were used to compare the five groups. Of the three correlations significantly different from zero, two involved the PA group and its relationships to the two teacher groups. The third significant correlation was between the two learner groups. This is interesting since this suggests a dichotomy between those who are gifted and those who serve the gifted--or, if one likes, a difference in the way learners and adults value gifted descriptors. One notes, however, that the much larger sample sizes for the learner groups dictated in lage measure the choice of the descriptors used in this comparison. These ten descriptors accounted for more than 50 percent of the total responses made by the EL group and more than 40 percent for the SL group. In the case of each of the other three groups these descriptors accounted for less than one-fourth of their respective total responses.

To correct the deficiency inherent in the previous analysis, the data for the 11 most popular descriptors as defined by the average percent of occurance within groups were used to compare the five groups. (Eleven instead of ten were used because of tied ranks at position ten.) As indicated in Table 6 two of the previous correlations are still significant and one is unable to refule the hypothesis set forth earlier--gifted students value the descriptors differently than the adult groups. One notes, as well, that for each group these 11 descriptors accounted for 30 to 40 percent of all responses.

When comparing the descriptors listed in Tables 5 and 6 one notes that several of the words in the first comparison are replaced by four different ones in the second one. That is, when the learner groups, by virtue of their larger sample sizes, dominated the choice of descriptors, the categories "Studious", "Friendly" and "Achievement" were included. When the other groups were given an equal opportunity to determine the descriptors, the previously mentioned three were replaced by "Curious", "Independent", "Interested" and "Questioner". This suggests the "inside-outside" nature of the differences existing between the learner and adult groups in perceiving giftedness--the latter seem as a collection to be more active or observable in a behavioral sense than the first three.

Table 5. Correlations Based Upon the Most Popular Descriptors (Frequency)

	Descriptor	Percentage of Responses				
		EL	ET	SL	ST	PA
1	Achievement	2.8(7.5)[a]	1.9(5)	3.1(7)	1.7(6.5)	.5(8)
18	Creative	4.2(5)	6.4(1)	4.7(2.5)	5.1(1)	5.1(1)
31	Friendly	5.7(3)	.9(7)	2.6(9)	.0(10)	.9(7)
37	Humor	1.5(10)	4.8(2)	3.5(6)	2.9(5)	1.4(4.5)
42	Intelligent	15.9(1)	1.5(6)	9.7(1)	3.6(4)	2.6(2)
47	Learns Easily	7.3(2)	2.1(4)	3.7(5)	1.0(9)	.0(9.5)
53	Motivated	2.8(7.5)	.8(8)	4.7(2.5)	3.7(2)	1.4(4.5)
66	Studious	5.5(4)	.7(9)	3.9(4)	1.1(8)	.0(9.5)
68	Thinkers	3.5(6)	2.6(3)	2.7(8)	3.8(3)	2.3(3)
71	Verbal	2.3(9)	.3(10)	2.2(10)	1.7(6.5)	1.2(6)
	Group Intercorrelations[b]					
Elementary Learners		--	-.19	.85*	.03	.12
Elementary Teachers			--	.05	.61	.69*
Secondary Learners				--	.43	.36
Secondary Teachers					--	.84*

[a] Ranks within groups

[b] .05 level of significance requires $r > .631$, 8df

Table 7 reports the results of merging the ten most popular descriptors for each of the five groups. Because of tied ranks 11 descriptors were tabled for several of the groups, ET, SL, and PA. This process yielded a total of 28 different descriptors. Moreover, 14, or about 50 percent, of these belonged to only one group. Only two descriptors, "Creative" and "Thinkers", were common to at least four of the groups. This is evidence of the diversity among the groups with respect to which are the most valued descriptors of giftedness. There simply was no mutual agreement.

A summary for the number of descriptors common to each pair of groups is presented in Table 8. While the two learner groups had seven descriptors in common the average descriptors in common among the adult groups was

Table 6. Correlations Based Upon the Most Popular Descriptors (Percents)

	Descriptor	Percentage of Responses				
		EL	ET	SL	ST	PA
18	Creative	4.2(3)[a]	6.2(1)	4.7(2.5)	5.1(1)	5.1(1.5)
20	Curious	.7(9)	3.0(6)	1.1(10)	3.6(6.5)	5.1(1.5)
37	Humor	1.5(7)	4.8(4)	3.5(5)	2.9(9)	1.4(9.5)
40	Independent	.3(10)	5.6(3)	2.3(7)	1.7(10)	1.6(8)
42	Intelligent	15.9(1)	1.5(10)	9.7(1)	3.6(6.5)	2.6(6)
43	Interested	1.4(8)	3.1(5)	1.4(9)	2.1(9)	3.5(5)
47	Learns Easily	7.3(2)	2.1(9)	3.7(4)	1.0(11)	.0(11)
53	Motivated	2.8(5)	.8(11)	4.7(2.5)	3.7(5)	1.5(9.5)
58	Questioner	.0(11)	2.9(7)	.1(11)	4.4(2.5)	4.7(3)
68	Thinkers	3.5(4)	2.6(8)	2.7(6)	3.8(4)	2.3(7)
71	Verbal	2.0(6)	6.1(2)	2.1(8)	4.4(2.5)	4.2(4)
	Group Intercorrelations[b]					
Elementary Learners		--	-.41	.90*	-.03	-.26
Elementary Teachers			--	-.29	.20	.35
Secondary Learners				--	.06	-.31
Secondary Teachers					--	.72*

[a]Ranks within groups

[b].05 level of significance requires r > .601, 9df

S.D. The average descriptors in common between the learner and adult groups was only 2.7 with the least overlap of the lists existing between each learner group and the parents.

Analysis using the entire thesaurus. Data for the entire thesaurus consisting of 72 categories were used as a final analysis of the relationships existing among the five sample groups. Table 9 reports these correlations. Note in this analysis that two additional categories were considered: L, the combination of the two learner groups; and, T, the combination of both teacher groups. Though more correlations in this analysis were statistically different from zero (due to the increased

Table 7. The Most Important Descriptors as Perceived by All Groups

Descriptor		Ranks Within Groups					Total Groups
		EL	ET	SL	ST	PA	
1	Achievement	9.5	--[a]	8	--	--	2
3	Advanced	--	--	10.5	--	--	1
6	Attentive	--	--	--	--	1	1
7	Aware	--	--	9	--	--	1
11	Competitive	--	5	--	--	6.5	2
18	Creative	5	1	3	1	2.5	5
20	Curious	--	7	--	8.5	2.5	3
21	Demanding	--	--	--	--	9.5	1
23	Eager	--	--	--	5	--	1
24	Empathic	--	--	--	2	9.5	2
31	Fun	3	--	--	--	--	1
37	Humor	--	4	6	10	--	3
40	Independent	--	3	--	--	--	1
42	Intelligent	1	--	1	8.5	--	3
43	Interested	--	6	--	--	6.5	2
44	Interesting	8	--	--	--	--	1
46	Leadership	--	9	--	--	--	1
47	Learns Easily	2	--	5	--	--	2
50	Mature	--	--	--	--	9.5	1
53	Motivated	9.5	--	2	7	--	3
57	Problem Solver	--	10.5	--	--	--	1
58	Questioner	--	8	--	3.5	4	3
59	Quick	--	--	--	--	9.5	1
64	Sociable	--	--	7	--	--	1
66	Studious	4	--	4	--	--	2
67	Talented	6	--	--	--	--	1
68	Thinkers	7	10.5	10.5	6	--	4
71	Verbal	--	2	--	3.5	5	3

[a]Not included as a most important descriptor

Table 8. Popular Descriptors Common Among the Groups

Group	Common Descriptors				
	EL	ET	SL	ST	PA
Elementary Learners	--	2	7	4	1
Elementary Teachers		--	3	5	5
Secondary Learners			--	5	1
Secondary Teachers				--	5

Table 9. Correlations Based Upon the Entire Thesaurus

Group	Group Intercorrelations						
	EL	ET	SL	ST	PA	L	T
Elementary Learners	--	.06	.81*	.22	.03	--[a]	.16
Elementary Teachers		--	.22	.56*	.57*	.11	--
Secondary Learners			--	.46*	.17	--	.39*
Secondary Teachers				--	.63*	.29*	--
Parents					--	.07	.68*
All Learners						--	.23

*.05 level of significance requires r .231, 70df

sample sizes) their magnitudes were not affected appreciably from what other analyses produced. It was still the case that the strongest relationship was between the two learner groups and all analyses between the several adult groups produced significant correlations with values in excess of .50.

In all analyses included in this report it appeared that congruences of perception regarding the gifted descriptors existed with the two learner groups and the three adult groups. On the other hand, correlations between the learner and adult groups tended to be weak. In order to look more carefully at the differences between these two groups the percentage difference between each pair of groups was computed for each of the 72

Table 10. Descriptor Discrepancies Among the Groups

Rank of Discrepancy	Groups EL	Groups ET	Groups SL	Groups ST
1	Intelligent		Intelligent	
2	Learns Easily			Questioner
3		Independent		Empathic
4	Studious			Eager
5	Friendly		Studious	
6		Verbal	Learns Easily	
7	Talented		Friendly	
8		Humor		Curious
9		Competitive		Demanding[a]
10		Questioner		Quick[a]
				Verbal[a]

Rank of Discrepancy	Groups EL	Groups PA	Groups SL	Groups PA
1	Intelligent		Intelligent	
2	Learns Easily			Attentive
3	Studious			Questioner
4	Friendly		Studious	
5		Questioner		Empathic
6		Empathic	Learns Easily	
7		Attentive	Motivated	
8		Competitive	Achievement	
9		Quick		Demanding
10	Interesting		Goal Oriented	

[a]Tied ranks

descriptors. The ten most disparate descriptors for each of four pairwise comparisons are presented in Table 10. These descriptors are staggered in the table to indicate which group had a tendency to use them more often. For example, the poor linear relationship that existed between the

elementary learner and teacher groups was, to a considerable degree, due to the fact that the EL group valued more highly the descriptors "Intelligent', "Learns Easily", "Studious", "Friendly", and "Talented" while the ET group prized the words "Independent", "Verbal", "Humor", "Competitive", and "Questioner". In fact, whether a learner was classified as elementary or secondary, the descriptors ranked highly by them tended to be academically oriented. The adult groups, on the other hand, tended to describe giftedness in more affective, interactive terms.

SES, Sex and School Level Factors

For approximately 50 percent of the elementary sample (EL) and 90 percent of the secondary sample (SL) the investigator was able to classify students according to their sex and socio-economic status. For each of these groups a thesaurus was constructed and responses classified. The one for the elementary group included 27 descriptors while the one for secondary had 32. With the exception of one group, high SES female students at the secondary level, all correlations were significantly different from zero. At the elementary level there appeared to be little differences within a particular SES classification between the sexes. At the secondary level this was most true of the middle SES category. In general, for both groups, the middle and lower SES groups tended to correlate more closely than middle SES with high SES or high SES with low SES. Every correlation in the secondary portion of the table was smaller than its elementary counterpart suggesting greater heterogeneity of responses.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The primary concern of this investigation was to construct a thesaurus of gifted descriptors. To accomplish this, data from five groups were utilized, two groups consisting of elementary and seconday gifted students, two groups of teachers of the gifted, elementary and secondary, and a group of parents of gifted children. Having done this, the thesaurus and its associated data were used to conduct a number of analyses.

Conclusions. Based upon the data and the analyses presented in this report, the following conclusions seem warranted:

Table 11. An Analysis of SES, Sex and Grade Level Factors

Group	Hi SES		Mi SES		Lo SES	
	Male	Female	Male	Female	Male	Female
Elementary Learners[a]						
Hi SES: Male	--	.82*	.62*	.62*	.52*	.52*
HI SES: Female		--	.71*	.62*	.61*	.61*
Mi SES: Male			--	.95*	.79*	.91*
Mi SES: Female				--	.88*	.94*
Lo SES: Male					--	.92*
Secondary Learners[b]						
Hi SES: Male	--	.52*	.36*	.54*	.45*	.39*
Hi SES: Female		--	-.02	.05	.06	-.08
Mi SES: Male			--	.93*	.57*	.49*
Mi SES: Female				--	.61*	.64*
Lo SES: Male					--	.69*

[a] .05 level of significance requires $r > .380$, 25df

[b] .05 level of significance requires $r > .348$, 30df

1. Gifted students, whether at the elementary or secondary levels of schooli[illegible] tend to view giftedness in much the same manner--largely in academic terms.
2. Adults appeared to perceive giftedness more broadly than the students and in terms which were characteristically more affective and/or interactive.
3. The parents and teachers groups tended to agree more closely regarding giftedness than they did with the student groups.
4. There appeared to be little relationship between the thesauri used by adults and students in describing giftedness.
5. The dissimilarity between secondary students and their teachers perceptions seemed less severe than at the elementary level.

6. Lower and middle SES students, both elementary and secondary, viewed giftedness in a more like manner than did the middle and high SES groups, or the high and the low SES groups.
7. The consistency of results derived from a variety of analyses suggest that the above conclusions are accurate and valid.

Recommendations. It was mentioned earlier how difficult it was to use one set of data to serve two very different purposes--that of compiling a thesaurus and testing for differences among the various groups contributing data for the thesaurus. This latter matter, that of looking at intergroup differences, should be pursued further. To this end, the following recommendations are made:

1. Utilize the descriptors derived in this study and the associated normative data to construct some properly scaled instruments. Have participants from groups similar to those used in this study react to the same collections of descriptors so that factor analytic methods might be utilized.
2. If different factors relative to giftedness are determinable then use these to construct other instuments to explore more carefully the various semantic models of giftedness that appear to exist among the different groups sampled in this study.

QUESTION TWO

Treatment of Question Two input was conducted in a way substantially different from that employed for Question One. While it was planned that responses to Question One would be amenable to statistical management, responses to Question Two were planned as contributory to banks of items build around item clusters appropriate to impact assessment. Hence, while responses to Question One were treated in both descriptive and inferential ways, responses to Question Two were only described.

Four procedures were utilized in the preparation of solicited input from Question Two. First, the solicited variables were listed essentially as contributed. The value of such a collection is that it provides the reader with the range of subject perceptions relative to the foci of impact assessment in Gifted Education. The list reflects, at least in part, an implicit perspective relative to what those who deliver and consume Gifted Education services value as outcomes.

Second, certain variables were accompanied by exemplary items as a result of each input session. These variables, with appropriate collected elaborations, are presented as well. Third, certain specially informed subjects were aware of available instrumentation or sources of instrumentation in Gifted Education. Such recommendations regarding instrumentation or sources of instrumentation are listed in the report.

Finally, as a result of reviewing the literature for this report, and preparing for the subsequent research, certain assessment variables, recommended items, and specially designed instruments have been made known to the writer. Where appropriate in the following presentation of responses to Question Two, that information is listed.

Given the four preparation procedures above, and the intent of this study to address the question of assessment instrumentation as directly as possible, the format for presentation has been developed to reflect the solicited input in as clear a manner as possible. Therefore, Question Two input is arranged according to assessment variables, each variable section containing materials from the four preparation procedures noted above.

QUESTION TWO: FINDINGS

The responses to Question Two were a demonstration of the extent to which the investigator was unable to communicate the concept of impact assessment in Gifted Education.

Two points are worthy of isolation with regard to the responses. First, there exists a high degree of confusion relative to the difference between impact research and valuational research. The confusion is similar to that between the strategies of "convincing" versus "helping the other to understand" in conflict interaction. Just as people are largely accustomed to convincing the nonagreeable other in a conflict, people are accustomed to evaluating programs in educational assessment. Because people's experience is with evaluation, their responses to Question Two focused upon valuational considerations, even after it was carefully explained that their brainstorming efforts should focus on educational impact.

Second, a review of responses to Question Two highlighted the extent to which the subjects in this study, while knowing more than anyone else about specific Gifted Education programs, were largely unable to translate that knowledge into instrumentation. Whether that observation is an artifact of having been traditionally excluded from research efforts, or simply a reflection of the state of impact research in Gifted Education is not clear. What is clear, however, is that impact research appears to be a beginning, and if it is a relevant focus in Gifted Education, it will have to be conceived virtually from scratch.

The ideas posed by the subjects reflected the following general statements:

1) Consumers (learners) rely heavily upon self report in assessment efforts.

2) People who deliver direct services (teachers) focus heavily upon human development factors (self concept, social interaction) in assessment efforts.

3) Consumers at both elementary and secondary levels believe a major purpose of schooling is basic skill and content learning, if their assessment variables are reflective of their educational beliefs.

4) Consumers at the elementary level are strongly committed to basic skill advancement (acceleration) as a variable in program assessment.

5) Parents are primarily interested in the extent to which their children are seriously engaged in an educational plan.

6) Teachers appear to care heavily about considerations of responsibility and appropriate behavior as artifacts of self concept.

QUESTION TWO: VARIABLES COLLECTED FROM FLUENT THINKING EXERCISE

abstractions, ability to deal with
approach behaviors toward MGM
basic skill learning
challenge, extent of
compare gifted in and out of programs
compare gifted with nongifted
creative performance
creative thinking skill ability
direct questions about MGM
decision making ability
extent of constructive action
future - goal setting
general behavior change
hidden curriculum factors, impact of
independence, learning opportunities
interest inventories
interaction abilities
involvement in school affairs
leadership
learner interview
learner self-report
learning style
MGM segregation attitudes
oral communication abilities
organizational abilities
parent interview
peer interview
problem solving abilities
risk taking
school approach behaviors
self concept
self segregation
sensitivity to problems

support for learner, program
talent development
teacher assessment
teacher interview
teacher self report

VARIABLE	LITERATURE	STUDY (77-40-G)
abstractions, ability with	X	X
academic ability	X	
academic honors received	X	
accomplishments, subsequent to school	X	
achievement, academic	X	
approach behaviors toward MGM		X
attitude toward school	X	
basic skill learning		X
broadened interests	X	
career plans	X	
challenge, extent of in MGM		X
compare gifted in and out of MGM program		X
compared gifted with nongifted		X
cost effectiveness of program	X	
creative performance		X
creative thinking skills	X	X
direct questions about MGM program		X
decision making ability		X
efficiency, use of time and resources	X	
evaluation ability (SOI)	X	
extent of constructive actions		X
future goal setting		X
general behavior change		X
general information	X	
hidden curriculum		X
independence, learning opportunities		X
interest inventories		X
interaction abilities		X
involvement in school affairs		X
leadership	X	X
learner interview		X
learner out-of-school interests	X	
learner self report		X.
learning style		X

VARIABLE	LITERATURE	STUDY (77-40-G)
manipulative skill	X	
memory	X	
MGM segregation attitudes		X
motivation to learn	X	
openness to psychological growth	X	
oral communication abilities		X
organizational abilities		X
parent interview		X
peer interview		X
performing arts	X	
personal adjustment	X	
problem solving abilities		X
productive thinking	X	
psychomotor abilities	X	
reading ability	X	
respect for others	X	
risk taking		X
scholarship aid received	X	
school approach behaviors		X
self concept	X	X
self segregation		X
self expression	X	
sensitivity to problems		X
social concern	X	
social relationships	X	
study self report - worth of MGM program	X	
student self report - intesting nature of program	X	
study habits	X	
support for the learner in the program		X
talent development	X	X
teacher assessment		X
teacher interview		X

VARIABLE	LITERATURE	STUDY (77-40-G)
teacher perception of giftedness	X	
teacher self report on MGM program	X	
tenacity - perseverance	X	
visual arts	X	

COMMON VARIABLES

EXPLICITLY COMMON VARIABLES:
abstractions, ability with
creative thinking skills
leadership
self concept
talent development

IMPLICITLY COMMON VARIABLES:
academic ability - basic skill
learning - academic achievement -
academic honors received

approach behaviors toward MGM
attitude toward school

career plans - future goal setting

manipulative skill - psychomotor
abilities

AFFECTIVE VARIABLES: VARIABLES FROM
FLUENT THINKING EXERCISE

1) academic goal-stating
2) personal goal stating
3) self-identity
4) general happiness
5) sense of purpose
6) emotional sensitivity - general empathy
7) self-concept of ability
8) self actualization
9) attitude toward school
10) feelings of accomplishment
11) independence
12) satisfaction - dissatisfaction
13) self-image
14) self criticism

AFFECTIVE VARIABLES: RECOMMENDED STRATEGIES
FROM FLUENT THINKING EXERCISE

1) sentence completion
2) selection of pictorial appropriateness
3) projective instrumentation

AFFECTIVE VARIABLES: DECLARATIVES ABOUT SELF

1) I am pleased with what I see when I look at myself in the mirror.

2) I can be happy when I am alone.

3) I am as good as I want to be.

4) I can see myself in a position of which I approve in ten years.

AFFECTIVE VARIABLES: SELF CONCEPT OF ABILITY

In each of the pairs of spaces below, pair your name with another person in your classroom. Continue pairing names until your name is paired with each person in your classroom.

_____	_____
_____	_____
_____	_____
_____	_____

⋮

to 40

Draw a circle around the name in each pair who you think is the more able in (selected variables).

AFFECTIVE VARIABLES: SOURCES OF INSTRUMENTATION

1) Children's Personality Questionnaire, Champaign, Illinois: Institute for Personality and Ability Testing.
Focus upon multiple dimensions of personality.

2) Junior-Senior High School Personality Questionnaire, Champaign, Illinois: Institute for Personality and Ability Testing.
Focus upon multiple dimensions of personality.

3) California Test of Personality, Del Monte Research Park, Monterey, California: California Test Bureau, Division of McGraw-Hill.
Focus upon multiple personality dimensions, some of which are associated with self-concept.

4) Tennessee Self-Concept Scale, Nashville, Tennessee: Counselor Recordings and Tests.
Focus upon variables like personality integration, defensiveness, and general maladjustment.

5) Self-Esteem Inventory, Coopersmith, S.A. Davis, California: University of California.
Focus upon self-report responses to items regarding self, home, school, and social environment.

6) Interpersonal Effectiveness Diagnosis, San Diego: Human Development Training Institute.
Focus upon affection, inclusion, and control in terms of relative satisfaction and dissatisfaction.

7) A Beginning: Annotated List of Affective Measures, San Diego: Human Development Training Institute.
An annotated list of affective measures that contains 135 entries in eight categories.

MGM, THE NATURE OF: VARIABLES
FROM FLUENT THINKING EXERCISE

1) preference to remain in the program
2) inclination to recommend MGM to others
3) attitude toward school
4) extent of challenge
5) extent to which program focuses upon how to learn

MGM, THE NATURE OF: SELF REPORT
RANKINGS OF VALUES

1) Rank order the following items in terms of the benefits of the MGM experience for you:

a) social interaction with intellectual peers
b) intellectual stimulation
c) learning how to learn
d) creative expression
e) opportunity for critical thinking
f) getting out of boring classes.
g) learning about things of my choice
h) having special teachers who are trained to work with MGM learners
i) diversity of learning opportunities
j) harder work in school
k) independent learning opportunities
l) the opportunity to be a decision maker about my own life
m) opportunity to learn at my own rate of speed
n) not having to wait on other students

:

MGM, THE NATURE OF:
SELF REPORT ITEMS

1) MGM has the following undesirable effects upon me:

_____

_____

_____

2) MGM has the following positive effects upon me:

_____

_____

_____

3) The following experiences are my favorites in MGM:

_____

_____

_____

MGM, THE NATURE OF: SELF REPORT
RESPONSES TO DECLARATIVES

1) The best thing about MGM is that it is not boring.

2) My likes and dislikes for MGM are about balanced.

3) I cannot think of a good reason for stopping my participation in MGM programs.

4) My attraction for my MGM classes is largely related to the intellectual stimulation I find there.

5) The MGM classes are a powerful attraction for me which I would find hard to resist.

6) I can become so absorbed in my school work for MGM that I sometimes forget about other things.

7) I read and write more in MGM than in the regular school program.

8) MGM is harder than the regular school program.

9) MGM in school usually means that there is something new to learn.

10) I am happiest in school when there is something new to learn.

11) I am happiest in school when I am in MGM classes.

12) The MGM program helps me strengthen my weaknesses.

13) The MGM program allows me to explore new things.

14) The MGM program allows me to explore things that are interesting to me.

15) The MGM program drives me into thinking and working independently.

16) In MGM classes I usually know the answer.

17) MGM is an interesting place to be.

18) One of the problems with MGM is that it demands too much work.

19) I am usually confident when I approach a learning task in MGM.

20) I feel good about coming to school each day.

MGM, THE NATURE OF:
SELF REPORT ITEMS*

1) I have benefitted from being identified MGM.

2) I benefitted from being placed in a special MGM program.

3) I have benefitted from my interactions with other MGM students in the program.

4) I have benefitted from the expenditure of special funds for the MGM program.

5) I have benefitted from MGM program field trips.

6) I have benefitted from the special scheduling system for my classes.

7) I have benefitted from the independent study opportunities in MGM.

8) I have benefitted from the opportunity to accelerate my studies ahead of the regular class schedule.

9) I have benefitted from academic counseling in MGM.

10) I have benefitted from the opportunity to establish my own goals for future academic work.

11) I have benefitted from the career counseling in the MGM program.

12) I have benefitted from the leadership encouragement that occurs in MGM.

13) I have benefitted from the unique knowledge and skills of the MGM teachers.

14) I have benefitted from the personal counseling opportunities in MGM.

---

*Adapted from J. Palmer, MGM: Graduate Follow Up, Santa Ana High School, Santa Ana, California, 1977.

CREATIVITY: VARIABLES FROM
FLUENT THINKING EXERCISE

1) problem solving abilities

2) analytical thinking

3) creative thinking abilities

4) critical thinking

5) listing of student - conducted independent projects associated with school work

6) listing of student-conducted independent projects not associated with school work

7) contributory attitudes

8) listing of actions that can be defined as contributory to the society

9) school's opportunities for the development of talent

10) school's opportunities for the productive use of talent

11) pursuit of interests

12) recognition of existence of talent

13) comparisons of student abilities in two blocks of Structure of Intellect abilities: Cognition-Memory-Convergent Production versus Evaluation-Divergent Production

14) the extent to which creative performance is encouraged in school

15) the extent to which creative thinking is utilized as content in basic school learnings

16) evidence of curiosity

17) the extent to which experimentation is a learning mode in school

TALENT: VARIABLES

1) spontaneity vs. deliberateness
2) analytic vs. visual
3) original vs. spontaneous
4) aesthetic awarebess

CREATIVE THINKING:
AGREE-DISAGREE STATEMENTS

1) Creative individuals are troublesome to teachers in my school.

2) I often find myself in conflict with authority at my school because of my ideas.

3) I am the target of ridicule by my peers because of my ideas.

4) Creative people in my school are usually encouraged by their teachers.

5) When people daydream in school, I feel that they are wasting time that should be devoted to learning.

6) Generally speaking, people do not truly think of anything new; they only hitchhike on others' ideas.

CREATIVE THINKING: TARGET SKILL FACTORS

1) Fluent Thinking - the ability to generate multiple ideas in response to a task

2) Flexible Thinking - the ability to generate alternative perspectives regarding a task

3) Elaborative Thinking - the ability to embellish on an idea or task

4) Curious Thinking - the ability to general inquiries about a task or problem

5) Original Thinking - the ability to generate novel or unique ideas or responses

6) Imaginative Thinking - the ability to generate ideas in a largely speculative way

CREATIVE THINKING ASSESSMENT FROM A STRUCTURE OF INTELLECT PERSPECTIVE*

1) Divergent Production of Figural Units

2) Divergent Production of Figural Classes

3) Divergent Production of Figural Systems

4) Divergent Production of Figural Transformations

5) Divergent Production of Figural Implications

6) Divergent Production of Semantic Units

7) Divergent Production of Semantic Classes

8) Divergent Production of Semantic Relations

9) Divergent Production of Semantic Systems

10) Divergent Production of Semantic Implications

---

*Structure of Intellect abilities can be assessed directly from various IQ test booklets by using the profiling materials produced by Meeker, Structure of Intellect Institute, El Segundo, California.

CREATIVITY: SOURCES OF INSTRUMENTATION

1) Critical Thinking Appraisal, Watson, G. and E. M. Glaser, Harcourt Brace Jovanovich, Inc. 1961.
Focus upon inference, assumptions, deductions, and interpretation.

2) Torrance Tests of Creative Thinking, Torrance, E. P., Personnel Press, Inc. 1966.
Focus upon fluency, flexibility, elaboration, and originality.

3) Creativity Tests for Children, Guilford, N. P., Sheridan Psychological Services, Beverly Hills, California 1971.
Focus upon Structure of Intellect factors contained in Divergent Production.

4) Thinking Creatively With Sounds and Words, Torrance, E. P., J. Khatena, and B. F. Cunningham. Personnel Press, Lexington, Massachusetts 1973

5) Classroom Creativity Observation Schedule, Denny, D. A., Rueben Rusch, and S. Ives. State University College, Oneonta, New York.
Focus upon classroom climate, and both general and specific affective and verbal structuring in the classroom.

6) Slovic risk-taking measurement, West, J. D., B. R. Fretz, and M. J. MacDonald, "Modifying Tisk-Taking Behavior," Child Development, 41:1083-1088, 1970.
Focus upon elements in the risk-taking dynamic.

7) Owen's Creativity Test, Owens, W. A. Ames, Iowa: Iowa State University Press.
Focus upon generic conception of creativity at the secondary and post-secondary levels.

8) Purdue Creativity Test, Lafayette, Indiana: Purdue University.
Focus upon fluency, flexibility, and originality.

9) Children's Personality Questionnaire, Champaign, Illinois: Institute for Personality and Ability Testing.
Focus upon multiple dimensions of personality, seven of which are appropriate to psychodynamic factors of creativity.

10) Junior-Senior High School Personality Questionnaire, Champaign, Illinois: Institute for Personality and Ability Testing.
Focus upon multiple dimensions of personality, seven of which are appropriate to psychodynamic factors of creativity.

11) Barron-Welsh Art Scale, Palo Alto, California: Consulting Psychologists Press, Inc.
Focus upon the Barron research dealing with figure preferences.

DECISION MAKING: VARIABLES FROM
FLUENT THINKING EXERCISE

1) ability to think at higher levels - Bloom's Taxonomy

2) response to situational stimuli which force the articulation of relevant issues and choice regarding solutions

3) involvement in, or awareness of, the wider world

4) application of traditionally articulated problem solving abilities

5) sensitivity to, and involvement in, goal statements

6) willingness to change goals for legitimate reasons

7) life space organizational abilities

8) sensitivity to consequences of decisions

9) sense of responsibility

10) demonstrated ability to use logical thinking

11) ability to ask insightful questions

SELF REPORT ITEMS:
DECLARATIVES ABOUT DECISION MAKING

1) A decision maker is someone who has common sense.

2) A decision maker is someone who is likely to decide to go against the grain of his/her peers.

3) A decision maker must be confident of his/her views and ideas.

4) The most important characteristic of a decision maker is the ability to understand the problem.

5) A person should not make decisions unless the responsibility for the consequences falls directly upon him/her.

6) A person who makes a decision and then changes it is not strong.

7) Making a decision means the ability to carry on the work that the decision demands.

8) A good decision maker knows what (s)he is going to do next.

9) A good decision maker must be ready to take large social risks.

10) A decision maker must be able to trust his/her feelings.

11) Most good decision makers are confident of their decisions once they make them.

12) A decision maker is usually involved in many things both in and out of school.

DECISION MAKING: DECLARATIVES ABOUT SELF

1) I'd like it if I could find someone who would tell me how to solve my problems.

2) I make decisions about what to wear to school.

3) I make decisions about where I will spend my time.

4) I make the decisions about how I will use my time.

5) Rank the following list of sources of people who have the greatest impact upon the decisions you make regarding your future educational experiences:

   parents
   peers
   teachers
   counselors
   administration at school
   people who supervise you on your job
   clergy
   other (specify)

6) Rank the following list of sources of people who have the greatest impact upon the decisions you make regarding your future vocational experiences:

   parents
   peers
   teachers
   counselors
   administration at school
   people who supervise you on your job
   clergy
   other

7) I plan my life by making lists of things that I have to do.

8) I plan a schedule of my available time on at least a weekly basis.

9) I often try something just to see what will happen.

10) I can trust my own feelings about things.

11) Rules and regulations are to be studied and adjusted to circumstances, not automatically followed.

12) I prefer that people leave me alone when I have come up with a wrong answer.

13) I often guess when I don't know the answer.

14) I prefer to do things I know about rather than trying out something new.

15) I seldom suggest to a group a new idea I have.

16) It is good to take the position that nothing should be automatically accepted as completely true.

17) I usually make sure I will succeed before I begin a new activity.

DECISION MAKING: SITUATIONAL RESPONSES TO PROBLEMS - INSTRUMENTATION THAT PRESENTS SITUATIONS TO THE SUBJECT ABOUT WHICH SUBJECT MUST ARTICULATE RELEVANT ISSUES AND CHOOSE FEASIBLE SOLUTIONS

EXAMPLE: Bob's sister's daughter had a son who was older than Bob.

The issue in this problem (choose one).

1.
2.
3.
4.

The solution and reason that best suits the problem (choose one).

1.
2.
3.
4.

DECISION MAKING AS PROBLEM SOLVING: AN APPLICATION OF THE FINDINGS OF OBSERVATION*

Fixx reported on his observations of subjects as they worked toward the solution of certain problems. The characteristics observed by Fixx of effective problem solvers included the following systematic behaviors and attitudes.

1) Try the most obvious routes to the solution.

2) Think about and try various different routes to the solution.

3) Use trial and error behavior to figure out what a solution might look like.

4) Hypothesize and test all hypotheses.

5) Continually review all collected information during the problem solving process.

6) Question the assumptions being made about the conditions of the problem.

7) Question whether assumptions are being made about the conditions of the problem that need not be made.

8) Question whether the solution might be of a sort not being considered.

9) Question whether all of the possibilities associated with a certain problem solving strategy have been used.

10) Question whether there is a different way to understand the problem.

11) Generate viable assumptions about the conditions of the problem.

12) Faith in one's ability to identify and pursue all possibilities.

13) Unwillingness to linger with a possibility that has proven dysfunctional.

14) The ability to find the obvious from among distractors.

---

*Material adapted from Games for the Super-Intelligent by J. F. Fixx, New York: Popular Library (Doubleday), 1972.

DECISION MAKING: CHARACTERISTICS OF INDEPENDENCE AND CONFORMITY*

INDEPENDENCE	CONFORMING
1) effective leader	1) submissive, compliant and overly accepting of authority
2) ascendant role in relations with others	2) tends to do the things that are prescribed
3) persuasive	3) narrow range of interests
4) turned to for advice and counsel	4) overcontrols impulses, inhibited, needlessly controls or denies gratification
5) efficient, capable, able to mobilize resources	5) vacillates about decision making
6) active and vigorous	6) stress produces confusion and disorganization
7) natural, pretense free	7) lacks insight into own motives and behavior
8) expressive and ebullient	8) suggestible, overly responsive to judgments of others
9) seeks and enjoys aesthetic and sensuous impressions	
10) self-reliant, able to think for self	

*Crutchfield, R. S. "Conformity and Character," American Psychologist 10:191-198, 1955.

LEADERSHIP: VARIABLES FROM
FLUENT THINKING EXERCISE

1) willingness to explore uncharted waters

2) ability to speak publically with comfort

3) ability to argue/persuade for a cherished idea or position before disinterested or hostile peers

4) ability to work effectively with others

5) comfortable with introducing new ideas to peers

6) the ability to cope with ambiguity

7) influence over peers and others

8) the ability and willingness to contribute to the peer society

9) personal autonomy

10) willingness to take social risks

11) ability to deal effectively with criticism

12) the willingness to assume responsibility

13) the ability to carry out responsibilities

14) self-confidence

15) extroversion

16) willingness to be different--to go against the grain

17) characteristics of initiative

18) enjoys the respect of others

19) holds available offices in school and community

20) heavy involvement in extra-curricular activities

21) involvement in the political affairs of the school

22) willingness to play advocate for others, in school conflicts with teachers and administrators

LEADERSHIP: SELF REPORT ITEMS -
DECLARATIVES ABOUT SELF

1) My decisions sometimes surprise people, but I seldom change them for that reason.

2) People sometimes disagree with my decisions, but they usually go along with me.

3) My friends are mostly interested in things that interest me.

4) My friends usually do the things I want to do.

5) People often ask my opinion about things.

6) Other students in school value my opinions.

7) I am usually able to influence others to do things that I think are right.

8) I devote a lot of my time to trying to correct injustice.

9) I think I have a lot to say to my friends that would be good for them to hear.

10) I often do things because others expect me to do them.

11) I sometimes go along with others even if I think it will be bad for me.

12) I am able to list several things that I am good at.

13) I am seldom influenced by advertising.

14) Usually I help people understand my point of view when we disagree.

15) Usually I try to convince people I'm right when we disagree.

16) I often demand that people change or agree with me.

17) I usually complete tasks that I agreed to take.

18) People come to me when they want something done.

19) I think that people trust my work.

20) It seems that people have faith in my willingness to volunteer for important work.

21) My school assignments are rarely turned in late.

22) I have work to do at home, and I do it without being reminded.

23) I have learned a great deal about myself through other people's criticism of me.

24) When other people criticize me, I usually feel that they don't understand me.

25) I am willing to stand for an idea that is unpopular with my friends.

26) I vote for candidates for office in school after I find out how others are going to vote.

27) I would be willing to vote for something even if I disagreed with it, if it showed promise of being good for others.

28) I often feel like I am alone on important questions.

29) I am frustrated because other people waste my time.

30) I find it difficult to understand how anyone could be criticized constructively.

LEADERSHIP: DECLARATIVES ABOUT LEADERSHIP ROLE

1) Generally speaking, people won't work hard on a project unless they are forced to.

2) Anyone who completely trusts anyone else is asking for trouble.

3) A leader must usually urge people in their own direction, even if it is against their will.

4) The best way to handle people is to tell them what they want to hear.

5) Leaders in school must be honest.

6) Leaders in school must tend to improve any group they are associated with.

7) Leaders in school must be considerate of others.

8) Leaders in school must be resourceful in finding the best solution to problems.

9) Leaders in school must be good at getting the best solutions to problems from others.

10) Leaders in school must be sociable.

11) Leaders in school must face the fact that they will often have to go against the will of the majority.

12) Leaders in school will often have to go against school authorities.

13) Leaders have the problem of making the right decision at the right time.

14) Sometimes the best position for a leader to take is to follow.

15) Leaders should try to get along with others even when the will of others is disagreeable.

LEADERSHIP: SELF REPORT INFORMATION ABOUT
SELF AT HOME AND IN SCHOOL

1) instrumentation on ability to follow other's leadership

2) instrumentation on initiative

3) self esteem instrumentation

4) self confidence instrumentation

5) conformity - nonconformity

LEADERSHIP: REPORTS BY OTHERS ON SUBJECTS

1) sociometry

2) adjective checklist regarding how the subject is perceived by peers, teachers, significant others

3) leadership skill inventory completed by peers, teachers, parents on the subject

LEADERSHIP: INSTRUMENTATION
REGARDING THE SCHOOL

1) checklists: involvement in school affairs
offices held
extra-curricular involvement

format:

activities available in my school	item	my involvement

2) There is room in my school for self-initiated learning.

3) I have the opportunity to be involved in curriculum planning for the school.

4) The MGM program offers leadership opportunities within its structure.

5) I take a leadership position in the operation of the MGM program.

LEADERSHIP: CAPABILITIES AND CHARACTERISTICS
OF THE GIFTED STUDENT*

I. The ability to affect positive and productive change

II. The ability to make decisions which mitigate in favor of positive and productive change

III. The ability to affect change which is self-enhancing and group-enhancing in terms of the tasks assigned

IV. Empathy and sensitivity, personality and proficiency

V. Charisma - the ability to actualize one's values to the extent that dynamic group change is affected; the ability to transform the group through one's own enthusiasm, energy

*Lindsay, B. "Leadership Giftedness: Developing a Profile," Journal for the Education of the Gifted 1:53-69, 1978.

LEADERSHIP: INSTRUMENTATION AND SOURCES OF INSTRUMENTATION

1) The California Life Goals Evaluation Schedules
Western Psychological Services
12031 Wilshire Boulevard
Los Angeles, California 90025

2) The Leadership Ability Evaluation
Western Psychological Services
12031 Wilshire Boulevard
Los Angeles, California 90025

3) A Beginning: Annotated List of Affective Measures
Human Development Training Institute
7574 University Avenue
San Diego, California 92041

HIDDEN CURRICULUM: NARRATIVE

The notion of the "hidden curriculum" is not clear to educators, nor for that matter, to others. It has come to the fore through the educational reform literature, most especially in the writings of Postman and Weingartner (1973), and seems to refer to those elements in the school experience that are subliminal, although systematic, but not explicitly included in curriculum guides and courses of study. Prime examples of hidden curriculum elements, explored by Moore (1970), include conformity, competition, and grade consciousness.

As the notion of hidden curriculum was presented to subjects in the study, there was definite understanding of what the term meant, but little insight into how it might be measured, or how its effects might be isolated from other influences in the student's social experience. As a result, the material included in this section regarding hidden curriculum is limited to the prospective variables brainstormed by subjects.

HIDDEN CURRICULUM: VARIABLES FROM
FLUENT THINKING EXERCISE

1) the extent to which independent learning activities are initiated and honored

2) the extent to which time is the primary variable in the conduct of the school

3) the control experienced by students over the time variable in school

4) the extent to which learner achievement is controlled by teacher prophesy

5) the extent to which students have control over the affairs of the school

6) the extent to which the school takes a role in the involvement of students in affairs of the community

7) the extent to which the school has initiated and mobilized student support systems for crisis intervention

8) the extent to which students have a role in academic program development

9) the extent to which learners choose to engage in more academic work than that required

10) the extent to which students are aware of constructive purpose in the school community

11) the extent to which there is a sense among students that the school teaches to the average

12) the extent to which the school reinforces convergent thinking

13) the extent to which the school operates on a top-down political structure

14) the extent to which students utilize school-learned concepts and content in out-of-school situations that are independent of the school program

15) the extent to which students manifest attitudes of fairness

16) the extent to which the school operates on the basis of the "good sport"

17) the extent to which the competitive model is reinforced in the school

18) the extent to which students are reinforced for conforming behaviors and attitudes

19) the extent to which students are grade conscious

ASSESSMENT OF TEACHERS: VARIABLES FROM FLUENT THINKING EXERCISE

1) perceptions of students

2) perceptions of peers

ASSESSMENT OF TEACHERS:
UPWARD THRUST ITEMS*

1) My teacher shows an interest in me.

2) My teacher can adjust to different situations that arise in class.

3) My teacher is friendly and cheerful.

4) My teacher listens to the ideas and opinions of the students.

5) My teacher enjoys teaching.

6) My teacher admits when (s)he is wrong.

7) My teacher grades me fairly.

8) My teacher makes class interesting with a variety of activities and materials.

9) My teacher has good classroom control.

10) My teacher is able to answer most of the questions I ask.

11) My teacher plans carefully and uses class time well.

12) My teacher explains clearly the purposes of the class.

13) My teacher keeps me informed about how I am doing in class.

14) My teacher is available when I need help.

15) My teacher explains assignments clearly so that I know how to do them.

16) My teacher encourages me to take an active part in class.

---

*Reported with permission, Education Improvement Associates, San Diego, California.

QUESTION TWO: DESCRIPTOR LIST AS IMPACT DEVICE*

		I think that I am like the item:			
	Item	All of the Time	Much of the Time	Some of the Time	None of the Time
1)		0	0	0	0
2)					
3)					
⋮					

*An artifact of an educational program is its impact on the learner's self perspective. In the case of the funded study, there is a weighted list of characteristics which will be further analyzed in search of factors. An implication of the factoral study is the possibility that factors can be used as the items in a self perspective instrument. The prospective format above is included in that light.

Summary, Conclusions, Recommendations

The study intended to directly survey four constellations of individuals associated with direct Gifted Education services relative to brainstormed variables associated with the impactor effect of Gifted Education. The study further intended to elaborate on brainstormed variables associated with the impactor effect of direct Gifted Education services to the end that appropriate instrumentation could be fashioned. This report reflects the results of the first intent and the second intent; however with respect to the latter, no instrumentation was formally fashioned.

The clearest conclusion that can be drawn by the investigator with regard to the impact variable portion of this study is the need in Gifted Education, other fields of education aside for the purpose herein, for operational definitions of common program objectives. While it is true that on a district-to-district basis there exist great numbers of definitions, they range from meeting operational criteria to a state of definitional murkiness. The operational definitions of objectives tend toward the availability of existing hard-data instrumentation (achievement); the murky definitions load toward areas that demand teacher, parent, and learner self report.

A related conclusion is the difference between what Gifted Education agencies define as program objectives when compared with the definitions of consumers, and to a certain extent, their teachers. Most glaring in the difference is the exalted extent to which learners value academic achievement, while teachers place academic achievement in an equal to lesser perspective with all other variables. It is important as well to recall that the framework in California explicitly states that academic achievement, while not

devalued, will not be a fundamental program focus. The reason for the difference is not clear; that it exists is clear, and it is at least legitimate to posit that those who deliver and those who cons ume direct services may be working at cross purposes, at least with respect to academic achievement. (It may also be legitimate to posit that learners in the study identified academic achievement because they thought they should, and teachers did not because they either thought they shouldn't or because they perceived academic achievement as an impact given.)

It is clear that this survey is a necessary first step in the impact instrumentation process. A one-year instrument construction intent is obviously too grand. A variety of prospective variables have been articulated, and the variables have been categorized. The field of Gifted Education needs to address itself, assuming a commitment to efficacy research, to operational definitions, associated instrument construction, and instrument testing.

This study was preparatory to a long-term efficacy study. A major portion of that study will be on-going instrument design, specifically focused at the soft end of the variable continuum. Specifically, this study implies certain recommendations for the investigators in the planned efficacy study as well as other investigators associated with other studies.

1. Clarify the meaning and components of the term "hidden curriculum." If the term is valid, then its implications are fundamental to any study of program efficacy.

2. Agree on a position relative to self report. Such a position needs to consider the interaction of certain technical aspects of measurement with selected program foci.

3. Begin the establishment of clusters of impact items that discriminate from group to group.

4. Conduct an exhaustive review of known and published instrumentation as well as unpublished and "in-development" instrumentation associated with the focus variables in this study, and/or focus variables of import in the programs to be investigated.

Each of the four recommendations will be addressed in the planned efficacy study. The study reported herein clarified their form and importance.

BIBLIOGRAPHY

Adams, J.E. and C.O. Rose. "Is Skipping Grades a Satisfactory Method of Acceleration?" American School Board Journal 85:24-25, 1932.

Alexakos, C.E. and J.W.M. Rothney. "Post High School Preferences of Superior Students." Personnel and Guidance Journal 46:150-155, 1967.

Attucker, M.M. "Is the Pedagogically Accelerated Student a Misfit in the Senior High School?" School Review 32:193-2-2, 1924.

Bachtold, L.M. "Personality Differences Among High Ability Underachievers." Journal of Educational Research 63:16-18, 1969.

Barbe, W.B. One in a Thousand: A Comparative Study of Moderately and Highly Gifted Elementary School Children. Columbus, Ohio: Department of Public Instruction, 1963.

Bennett, F. et.al. "Potentially Gifted and Talented High School Youth Benefit from Independent Study." Gifted Child Quarterly 15:96-108, 1971.

Bockman, J.F. Evaluation of a Project: Independent Foreign Language Study by Selected Eighth Graders at Townsend Junior High School Using Programmed Materials, March 3 to May 23, 1969, ERIC, ED 033 632, 1969.

Bodmer, W.F. and L.L. Cavalli-Sforza. "Intelligence and Race." Scientific American 223:19-29, 1970.

Borg, W. An Evaluation of Ability Grouping, United States Office of Education Cooperative Research Project No. 577, Logan, Utah, Utah State University, 1964.

Burns, C.L.C. "Maladjusted Children of High Intelligence." British Journal of Educational Psychology 19:137-141, 1949.

Burt, C. The Gifted Child. New York: Halstad Press, 1974.

Chomsky, N. "Comments on Herrnstein's Response." Cognition 1:407-418, 1972a.

Chomsky, N. "The Fallacy of Richard Herrnstein's IQ." Cognition 1, 1972b.

Christensen, G. Guidelines for Gifted/Talented Programs. Idaho State Department of Education, Boise, Idaho, EC 08 0217, ED 112 631, 1975.

Conant, J. Student Evaluation of Gifted Programs. Unpublished Paper Submitted for SPED 622, The Gifted Individual, San Diego State University, 1976.

Conant, J. "The Identification and Education of the Academically Talented in the American Secondary School." National Education Association Report, Washington, D.C.: National Education Association, 1958.

Copley, F. The American High School and the Talented Student. Ann Arbor, Michigan: University of Michigan, 1961.

Cronback, L.J. "Five Decades of Controversy Over Mental Testing." American Psychologist 30:1-14, 1975.

Criscuolo, N. "Challenging the Gifted Reader." Gifted Child Quarterly 16:123-125, 1972.

Dohan, M.H. "The Accelerated Elementary Program at Ursuline Academy, New Orleans." The Catholic Educational Review 46:431-435, 1948.

Dranz, B. "What's So Special About 'Special' Curriculum for the Gifted? Part I: Identification Procedures." Annual International Convention, Council for Exceptional Children, 1976.

Drews, E.M. "A Cosmic Approach to Counseling and Curriculum." The Creative Intellectual Style in Gifted Adolescents (Report II). East Lansing: Michigan State University, 1965.

Durr, W.K. The Gifted Student. New York: Oxford University Press, 1964.

Fearn, L. Teaching for Thinking. San Diego: Kabyn Books, 1977.

Fortna, R.O. and B.O. Boston. Testing the Gifted Child: An Interpretation in Lay Language. Reston, Virginia: Council for Exceptional Children, 1976.

Freer, S. "Some Learning Characteristics of the Gifted." The Gifted Gazette, San Diego Association for Gifted Children, May-June 1976.

Frierson, E.C. "The Gifted." Exceptional Children Research Review, (ed) Johnson, G.O. and H.D. Black, Council for Exceptional Children, 1968.

Gallagher, J.J. The Influence of a Special School on Cognitive Style and Attitudes of Gifted Students. Springfield, Illinois Department of Program Planning for the Gifted, Office of the Superintendent of Public Instruction, 1965.

Goldberg, M., A. Passow, J. Justman, and G. Hage. The Effects of Ability Grouping. New York: Bureau of Publications, Teacher's College, Columbia University, 1965.

Golden, M.A.H. Cognitive, Behavioral, and Affective Activities in the Classroom of Gifted Secondary Students, ERIC ED 047 471, 1970.

Good, W.R. "Misconceptions About Intelligence Testing." The University of Michigan School of Education Bulletin, May 1954.

Goon, S.W. "Recognition of the Gifted From Among Disadvantaged Asian Children." Gifted Child Quarterly 20:157-164, 1976.

Gowan, J.C. and E.P. Torrance. Education and Guidance of the Ablest. Springfield, Illinois: Charles C. Thomas, 1964.

Guilford, J.P. "Factors That Aid and Hinder Creativity." Teachers College Record 63:380-392, 1962.

Guilford, J.P. "The Structure of Intellect." Psychological Bulletin 52:267-293, 1956.

Gray, H. and L. Hollingworth. "Achievement of Gifted Children Enrolled and Not Enrolled in Special Opportunity Classes." Journal of Educational Research 24:255, 1931.

Haggard, E. "Socialization, Personality, and Academic Achievement in Gifted Children." The School Review 65:388-414, 1957.

Haney, E.M. and W.L. Uhl. "Academic Records of Accelerated Students." Education of Gifted Children. 23rd Yearbook of the National Society for the Study of Education, Part I, 1924.

Hauk, B.B. "A Comparison of Gains in Evaluation Ability Between Gifted and Nongifted Students." Gifted Child Quarterly 11:166-171, 1967.

Herr, W.A. "Junior High School Accelerants and Their Peers in Senior High School." School Review 45:186-195, 1937.

Herrnstein, R. "Whatever Happened to Vaudeville? A Reply to Professor Chomsky." Cognition 1:301-309, 1972.

Hildreth, G. Educating Gifted Children. New York: Harper and Brothers, 1952.

Hildreth, G. Introduction to the Gifted. New York: McGraw-Hill Book Company, 1966.

Hitchfield, E.M. In Search of Promise: A Long-Term National Study of Able Children and Their Families. Humanities Press, Incorporated, Atlantic Highlands, New Jersey, 1973.

Instructional Program for the Gifted, Curriculum Department, Secondary Schools Division, Modesto City Schools, Modesto, California.

Jackman, W.D. and L.M. Bachtold. "Evaluation of A Seminar for Gifted Junior High Students." Gifted Child Quarterly 13:163-169, 1969.

ensen, J.M. "Do Gifted Children Speak an Intellectual Dialect?" Exceptional Children 1-73, pp. 337-338.

Ketcham, W. "Can Instruction for the Gifted Be Improved?" Innovator 7, August 1975.

Khatena, J. "Educating the Gifted Child: Challenge and Response in the United States of America." Gifted Child Quarterly 20:76-90, 1976.

Lincoln, E.A. "The Later Performance of Under-Aged Children Admitted to School on the Basis of Mental Age." Journal of Educational Research 19:22-30, 1929.

Lindsay, B. "Leadership Giftedness: Developing A Profile." Journal for the Education of the Gifted 1:63-69, 1978.

Martin, A.H. "A Study of the Subsequent Standing of Specially Promoted Pupils." Education of Gifted Children, 23rd Yearbook of the National Society for the Study of Education, Part I, 1924.

Martinson, R. Identification of the Gifted and Talented. ERIC ED 104 094, 1974.

Martinson, R. "The California Study of Programs for Gifted Pupils." Exceptional Children 26:339-343, 1960.

McWilliams, E.M. Intermediate Unit Programs for the Gifted, 1975-1976, Bucks County Intermediate Unit 22, Doylestown, Pennsylvania, 1975.

Meeker, M.N. "The Prophesy of Giftedness." Gifted Child Quarterly 20:100-104, 1976.

Meeker, M.N. The Structure of Intellect: Its Interpretation and Uses. Columbus, Ohio: Charles E. Merrill, 1969.

Meyer, J.W. "High School Effects on College Intentions." American Journal of Sociology 76:59-70, 1970.

Moore, D. Keynote Address, San Diego County School Administrators Retreat, Pine Valley, California, 1970.

Nelson, E.A. and E. Carlson. "Special Education for Gifted Children." Journal of Exceptional Children 12:6-13, 1945.

Neville, E.M. "Brilliant Children: With Special Reference to Their Particular Difficulties." British Journal of Educational Psychology 7:247-258, 1937.

Newland, E. "A Critique of Research on the Gifted." Exceptional Children 29:391-398, 1963.

Palmer, J.P. MGM Graduate Follow Up Study. Santa Ana High School, 1977.

Parnes, S.J. and E.A. Burnelle. "The Literature of Creativity." The Journal of Creative Behavior 1:52-109, 1967.

Parnes, S.J. and H.F. Harding. A Sourcebook for Creative Thinking. New York: Scribner's Sons, 1962.

Payne, D.A. "General Personality Correlates of Creative Personality in Academically and Artistically Gifted Youth." Journal of Special Education 9:105-108, 1975.

Perspectives on Talent: How to Search for and Nurture Talent in the Arts. Talents and Gifts 18:5-14, January 1976.

Postman, N. and C. Weingartner. The School Book. New York: Delacorte, 1973.

Powell, W.R. and C. Munsey. "San Diego's Program for the Gifted." Today's Education 62:38-39, 1973.

Principles, Objectives, and Curriculum for Programs in the Education of Mentally Gifted Minors Kindergarten Through Grade Twelve. California State Department of Education, Sacramento, California, 1971.

Renzulli, J.S. and L.H. Smith. "Evaluating Programs for the Gifted: Some Problems and Procedures." School Psychology Digest 5:16-24, 1976.

Renzulli, J.S. and R.K. Gable. "A Factorial Study of the Attitudes of Gifted Students Toward Independent Study." Gifted Child Quarterly 20:91-99, 104, 1976.

Renzulli, J.S. "The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented." Gifted Child Quarterly 20:303-326, 1976.

Research Program, The: Portland, Oregon Public Schools, in J.L. French (ed) Educating the Gifted. New York: Holt, Rinehart and Winston, Inc., 1964.

Robeck, M. "Special Classes for Intellectually Gifted Students." in Plowman and Rice (eds) California Project Talent, Sacramento, California: California State Department of Education, 1971.

Robinson, H. Center for Study of Gifted Children, University of Washington, Seattle, Washington.

Sato, I.S. "The Culturally Different Gifted Child--The Dawning of His Day?" School Psychology Digest 5:49-56, 1976.

Stallings, C.J. "Contemporary Identification and Program Models for Gifted Third World Children." Annual International Convention, Council for Exceptional Children, 1976.

Stanley, J.C. "The Student Gifted in Mathematics and Science." National Association of Secondary School Principals Bulletin, 60:28-37, 1976.

Steele, J.M. et.al. Instructional Climate in Illinois Gifted Classes, ERIC 043 990, 1970.

Stokes, E.H. The Relationship of School Entrance Age to Sociometric Status, Mental Health, and School Attitudes in Intellectually Superior Children. Unpublished Ph.D. Dissertation, North Texas State College, Denton, Texas, 1960.

Sumption, M.R. Three Hundred Gifted Children. Yonkers-on-Hudson, New York, 1941.

Swing, E.S. "Public School Elitist Education in a Revolutionary Era." English Journal 62:1223-1224, 1973.

Terman, L.M. et.al. Mental and Physical Traits of a Thousand Gifted Children. Stanford University Press, 1925, Volume I, Genetic Studies of Genius.

Thelburn, E. "A Study of the Effects of School Acceleration Upon the Personality and Social Adjustment of High School and University Students." Journal of Educational Psychology 29:523-539, 1938.

Torrance, E.P. Encouraging Creativity in the Classroom. Dubuque, Iowa: William C. Brown Company Publisher, 1970.

Treadway, G. A Comparison of Pupils' and Parents' Opinions of an Elementary Gifted Program. Unpublished Paper Submitted for ED 295, San Diego State University, 1968.

Tremaine, C.D. Effects of Gifted Programs on Their Participants: A Comparative Study. Unpublished Dissertation, United States International University, 1976.

Trout, J. et.al. "Ertl's Neural Efficiency Analyzer: Still Promising--But What? Kappan 57:448-451, 1976.

Tucker, J.A. "Structure of Intellect Programming: Some Initial Considerations." Talents and Gifts 18:19-21, March 1976.

White, A.J. Evaluation of Programs for the Gifted and Talented: A Report of the Connecticut Task Force on Evaluation, ERIC, ED 093 117, 1974.

Wilkins, W.L. "The Social Adjustment of Accelerated Pupils." School Review 44:445-455, 1936.

Williams, F.E. Classroom Ideas for Encouraging Thinking and Feeling. Buffalo, New York: DOK, 1972.

Wolf, M.H. et.al. "Curtain Call for the Arts." National Association for Secondary School Principals Bulletin, 60:20-27, 1976.

APPENDIX A

THESAURUS OF GIFTED DESCRIPTORS

ACHIEVEMENT: Academic excellence; Grades, gets good ones; Knowledge, has much; Learns well; Test scores high; Work, high quality

ACTIVE: Involved; Participates

ADVANCED: Accelerated; Comprehensive; Excels; Precocious

ALONE: Alone, need time for; Introspective; Introvert; Reclusive; Segregate selves; Shy

ARTISTIC: Art, likes

ATTENTIVE: Attention span longer; Concentrates; Listener; Observant

AWARE: Insightful; Intuitive; Mistakes, sensitive to; Perceptive; Reads situations; Senses, strong

BORED: Bored easily; Bored sometimes; Bored with typical

CAREFUL: Consistent; Detail, interested in; Detailed; Organize, ability to; Organized; Thorough; Work, neat

CARELESS: Detail, dismisses; Disorganized; Forgetful; Messy; Sloppy

COMPETITIVE: Aggressive; Assertive; Challenges, likes; Challenges, enjoys; Challenges, wants; Combative; Gutsy

CONCEITED: Aloof; Arrogant; Brag; Righteous; Show off

CONFIDENT: Popular, no need to be; Self image, good

CONSIDERATE: Appreciative; Compliments, gives; Generous; Kind; Manners, good; Polite; Respect others; Respect teacher; Respectful; Sincere

COOPERATIVE: Compliance; Directions, follow; Learn from each other; Responsive; Teachable; Willing

COORDINATED: Athletic; Athletics, interest in

COURAGEOUS: Bold; Brave

CREATIVE: Clever; Creative, enjoys; Innovative; Inventive; Original

CRITICAL

CURIOUS: Investigative; Probing; Questing; Try new things; Unknown, fascination for

DEMANDING: Bossy; Challenging of others; Manipulative; Pushy

DISRUPTIVE: Annoying; Boisterous; Loud; Noisy; Rebellious

EAGER: Adventurous; Enthusiastic

EMPATHETIC: Caring; Gentle; Loving; Regard for others; Sensitive; Thoughtful

ENERGETIC: Alive; Animated; Lively; Spontaneous

ERRATIC: Academic, inconsistent; Achievement, inconsistent; Mistakes, makes them; Unpredictable

FAIR: Egalitarian; Honest; Justice, sense of; Right from wrong, know difference

FAMILY SUPPORT: Family, close and strong; Parents involved; Parents supportive

FLEXIBLE: Ambiguity, accepting of; Copes; Copes well; Copes, different things; Ideas, will try new ones; Learn, new things; Open; Open minded; Openness to experience; Risk takers; Versatile

FRIENDLY: Friendships, close; Likeable; Nice; Outgoing; Social, seeks friendships

FUN: Fun, have; Games, enjoy them; Playful

GOAL ORIENTED: Future oriented; Futuristic; Goals, academic; Goal directed; Goal, reaches for; Striving

HAPPY: Cheerful; Joyful; Optimistic

HEALTHY: Big-tall; Large, physical; Strong

HELPFUL

HUMOR (sense of: Funny; Humorous

IMAGINATIVE: Creative, imaginative

IMPATIENT: Impulsive; Intolerant; Restless

INDEPENDENT: Entertain self; Resourceful; Self directed

INTELLECTUAL: Bookish; Good books, likes; Mentally centered

INTELLIGENT: Abilities high; Brain; Bright; Brilliant; Comprehends; Ingenious; IQ test high; Knows more; Learning abilities high; Smart; Tested IQ; Wise

INTERESTED: Interested, many things; Interested, variety of things; Interests, wide; Range is wide

INTERESTING: Attractive; Entertaining; Exciting; Neat as people; Popular; Respected; Social, popular; Stimulating

LAZY: Homework, doesn't do; Lazy, sometimes; Procrastinates

LEADERSHIP: Leaders

LEARNS EASILY: Comprehends quickly; Generalize quickly; Knowledge, absorbs; Learn, easy to; Learn to do quickly; New things, comprehends; Think fast; Thinking, quick; Understands easily; Understands quickly

LIKES SCHOOL: Academic; Academics, enjoy; Education, values; Learn, fun to; Learning, enjoys it

LOGICAL: Rational; Realistic; Reason, responds to; Reason, sensitive to

MATURE

MEAN: Grouchy; Irritable; Rude; Unfriendly

MEMORY, GOOD

MOTIVATED: Achievement, desire to; Learn, desire to; Learn, outside of class

NORMAL: Similar to other human beings

OPINIONATED: Argumentative; Contrary; Hard nosed; Narrow; Outspoken; Selfish; Single-minded; Temperamental

PERSEVERANCE: Dedicated; Determined; Initiative, has; Intense; Serious; Stubborn; Tenacious; Try hard

PROBLEM SOLVER: Abstract ability; Analysis, skills for; Compare-contrast, ability; Complexity, good at; Interpretive; Judgment, good; Problem solving ability; Research, ability; Symbols, good at; Synthesizes

QUESTIONER: Inquiring; Inquisitive; Questioning

QUICK: Alert

QUIET

READER

REASSURANCE: Approval, need for; Attention, seeks teachers; Attention; need for; Emotionally needy; Failure, fear of; Fear of being found ignorant; Insecure; Social acceptance, need for; Worrier

RESPONSIBLE: Conscientious; Dependable; Trustworthy

SOCIABLE: Civilized; Social; Social awareness; Social competence; Social, easy to get along with; Social, seek each other; Social, well adjusted

STANDARDS HIGH: Best; Best, wants to be; Expectations high; Perfectionist; Satisfied, not easily

STUDIOUS: Absorbed; Disciplined; Extra work, does; Hard classes, takes; Industrious; Productive; Studies, habits good; Studies hard; Use of time, productive; Work fast; Worker

TALENTED: Adept; Capable; Gifted; Instruments, plays; Skilled

THINKERS: Brain, use it; Brainstormers; Crafty; Cunning; Ideas, has good ones; Ideas, has stimulating; Mind, use it; Thinking, high level

TOLERANT: Accepting; Understanding

TROUBLE (NOT INTO): Straight

UNIQUE: Complex people; Different; Different, unafraid to be; Extremists; Individualistic; Nonconforming; Rebel; Special

VERBAL: Communicative; Express self well; Expressive; Fluent; Talk, easy to talk to; Talkative

VOCABULARY (GOOD, WIDE, STRONG): Articulate; Language superior

APPENDIX B

UNCLASSIFIED DESCRIPTORS

ELEMENTARY LEARNERS

Actors, good; Ages, different; Bad; Boring; Character, have; Classroom, leave it; Clean; Dignified; Dirty; Dumb; Enjoy, don't like everything; Ethnic-multi; Famous; Fan, sports; Feelings, able to express; Fine; Glasses, wear; Great; Japanese; Learn to make things; Likes science; Mexican; Middle class; Mysterious; Nervous; Personality, not spunky; Pessimistic; Psychic; Rich; Sad; School, attend with different people; Science, likes; Silly, sometimes; Small-short; Smart, parents are; Special class attendance; Special privilege, gets; Teachers, mind them; Trusting; Unattractive; Ungrateful; Violent; Weak; White

ELEMENTARY TEACHERS

Achievement, pride in; Applies information; Artistic, not; Collectors; Control, need for; Frustrates easily; Immature; Impractical; Mechanical; Moody; Peer pressure, responds to; Politically aware; Quiet or verbal; Social immaturity; Subtle; Tests, dislike; Unimportant, disdain for

SECONDARY LEARNERS

Athletics, not good at; Balanced; Boring; Capabilities, hide them; Community minded; Dress well; Dumb; Guilt, has feelings of; Immature; Modest; Moody; Motivation, lack of; Neglected; Persecuted; Ruin the curve; Sad; Socially unacceptable; Spoiled; Teachers, suck up to; Wasteful

SECONDARY TEACHERS

Frustrated with inabilities; Idealistic; Nonaggressive, physically; Sophisticated

PARENTS

Frustrated; Happy, not; Idealistic; Routine, resists; Threatening to adults